

BEGIN

REEL # 73

From

BUDNIK, V.S.

BUDNIK, V. S.

PA 190T64

USSR/Medicine (Veterinary) - Infectious Diseases Mar 51

"New Data on the Chemical Prophylaxis of Equine Piroplasmosis," V. S. Budnik, Cand Vet Sci, Saratov Sci Res Vet Expt Sta

"Veterinariya Vol XXVIII, No 3, pp 11-18

Horses which had piroplasmosis remain carriers of P. caballi for 4-5 mo after recovery. As the disease is transmitted by the tick D. marginatus, epizooty may result. One or 2 applications of Trypan blue cure the horse, but are not effective

190T64

USSR/Medicine (Veterinary) - Infectious Diseases (Contd) Mar 51

from the epizootiologic standpoint for longer than 10-16 days. Repeated administration of Trypan blue to recovered horses prevents transmission of the infection for 40-50 days, i.e., entire season during which the ticks are active.

190T64

BUDNIK, I. S.

"The Epizootical Importance of Parasite Carriers in Piroplasmosis of Horses,"  
Cand. Vet Sci. V.S. Budnik, Saratov Scientific Research Veterinary Instl Station,  
Veterinariya, No 3, pp 27-34, Mar 53.

Describes expts which demonstrated, contrary to the accepted theory of foreign scientists (Vela and others), that the Piroplasma caballi does not gain in virulence due to a prolonged stay in the organism of the transmitter, the D. marginatus tick. Author assumes that from the epizootic point of view the greatest danger lies in infection by parasite carriers of ticks, which become a reservoir of active virus. Compares the action of various drugs (tryplafavine, flavacridine, acaprine, and trypan blue) in preventing transission from horses to ticks. States that trypan blue, which is effective for 40-50 days, is best from this standpoint. 258754

BUDNIK, V.S., kandidat veterinarnykh nauk.

New data on the mechanism of transmitting the causative agent of  
nuttallosis of horses by the tick *Dermacentor marginatus* Sulz.  
Veterinariia 32 no.8:36-43 Ag '55. (MLRA 8:10)

1. Saratovskaya nauchno-issledovatel'skaya veterinarno-opyt'naya  
stantsiya.  
(TICKS AS CARRIERS OF DISEASE)(HORSES--DISEASES)(NUTTALLIA)

USSR/Diseases of Farm Animals. Diseases Caused by  
Protozoa.

Abs Jour: Ref Zhur-Biol., No 3, 1958, 12276.

Author : Budnik V. S.

Inst :

Title : New Data on Chemical Prophylaxis of Piroplasmosis  
in Horses.

Orig Pub: V sb.: Protozoynnye bolezni s.-kh. zhivotnykh  
(gemosporidiozy i tripanozomozy), M., Sel'khozgiz,  
1955, 185-194.

Abstract: The epidemiological effectiveness of trypanic  
blue (I) with regard to the disturbed circulation  
of *Piroplasma caballi* from the horse as parasite-  
carrier to the tick *Dermacentor marginatus* is de-  
monstrated. Experiments were carried out on 7 colts

Card : 1/3

BUDNIK, V.S., kand.vet.nauk, starshiy nauchnyy sotrudnik

Experience in the control of equine piroplasmosis in Saratov  
Province. Veterinariia 36 no.3:26-30 Mr '59. (MIRA 12:4)

1. Saratovskaya nauchno-issledovatel'skaya veterinarnaya stantsiya.  
(Saratov Province--Piroplasmosis)  
(Horses--Diseases and pests)

BUDNIK, V.S., kand.veterinarnykh nauk

Role of the nervous system in infection and immunogenesis in  
piroplasmosis in horses. Sbor.nauch.rab.Sar.NIVS 4:73-87 '60.  
(MIRA 15:7)  
(Piroplasmosis) (Horses--Diseases and pests)

BUDNIK, V.S., kand.veterinarnykh nauk.

Method for the typification of foci of piroplasmosis in horses.  
Sbor.nauch.rab.Sar.NIVS 4:88-91 '60. (MIRA 15:7)  
(Piroplasmosis) (Horses--Diseases and pests)

BUDNIK, V.S., kand.veterinarykh nauk

Effectiveness of the method of microovoscopy in diagnosing the  
causative agent of piroplasmosis in horses in the tick Dermacentor  
marginatus. Sbor.nauch.rab.Sar.NIVS 4:92-97 '60. (MIRA 15:7)  
(Piroplasmosis) (Ticks as carriers of disease)  
(Microscopy--Technique) (Horses--Diseases and pests)

BUDNIK, V.S., kand.veterinarykh nauk

New data on the mechanism of the transmission of the causative agent of nutalliosis in horses by the pasture tick, *Dermacentor marginatus* Sulz. Sbor.nauch.rab.Sar.NIVS 4:98 '60. (MIRA 15:7)  
(Horses---Diseases and pests) (Ticks as carriers of disease)

BUDNIK, V.S., kand.veterinarnykh nauk

Epizootological significance of parasite carriage in piroplasmosis  
in horses. Sbor.nauch.rab.Sar.NIVS 4:99 '60. (MIRA 15:7)  
(Horses--Diseases and pests) (Piroplasmosis)  
(Ticks as carriers of disease)

BUDNIK, V.S., kand.veterinarnykh nauk

New advances in chemical prophylaxis for piroplasmosis in horses.  
Sbor.nauch.rab.Sar.NIVS 4:100 '60. (MIRA 15:7)  
(Piroplasmosis) (Horses--Diseases and pests)

ORLOV, Ye.I., prof.; BUDNIK, V.S., kand.veterinarnykh nauk

Epizootological significance of the characteristics of the tick  
factor in piroplasmosis in horses under the natural conditions of  
the lower Volga Valley. Sbor.nauch.rab.Sar.NIVS 4:101-110 '60.

(MIRA 15:7)

(Piroplasmosis) (Volga Valley--Ticks as carriers of disease)  
(Horses--Diseases and pests)

BUDNIK, V.S.

List of works of associates of the Saratov Veterinary Research  
Center. Sbor.nauch.rab.Sar.NIVS 4:191-198 '60. (MIRA 15:7)  
(Bibliography---Veterinary medicine)

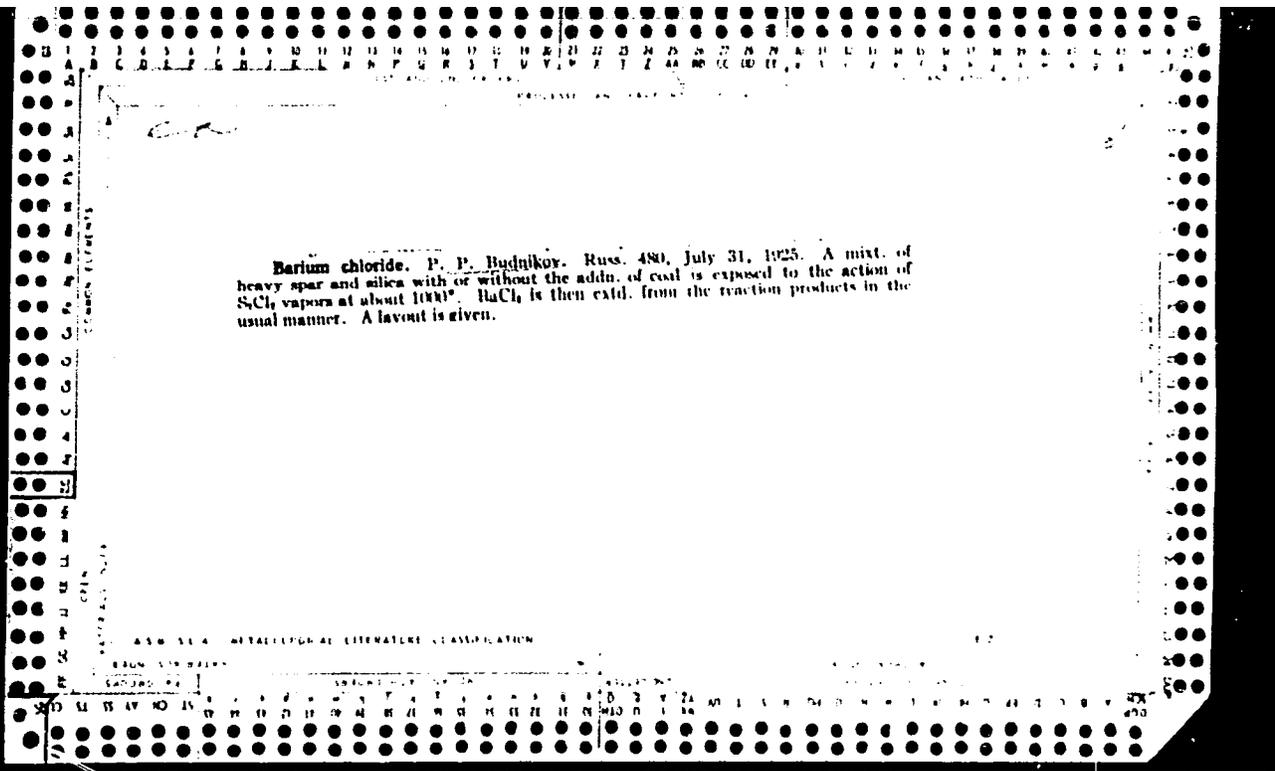
SADOWNICHYI, V.V.; BUDNIK, V.V.; LAGUTO, L.D.

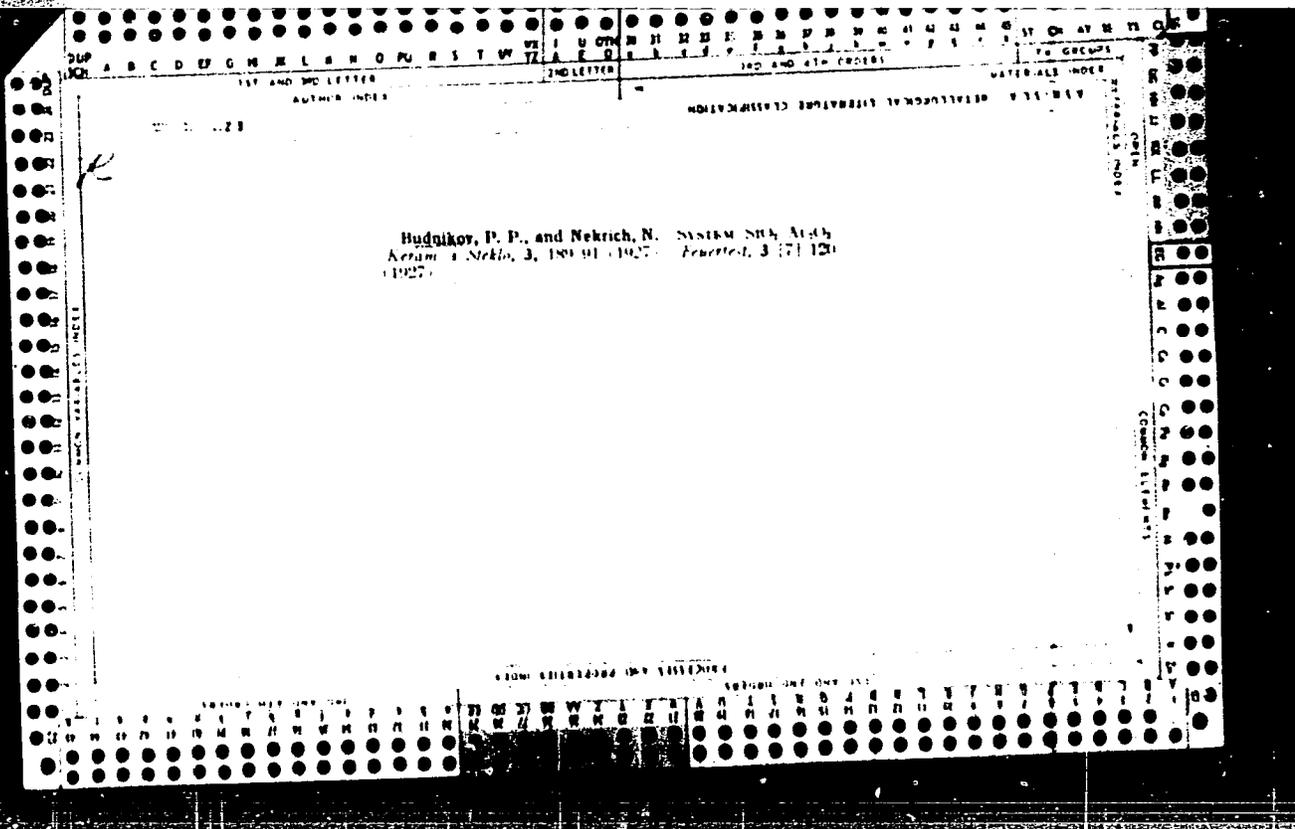
The FPFM milling, processing, and forming machine for obtaining  
granulated peat. Vestsi AN BSSR Ser.fiz.-tekhn.nav. no.1:131-133  
'56. (Peat machinery) (MLRA 9:10)

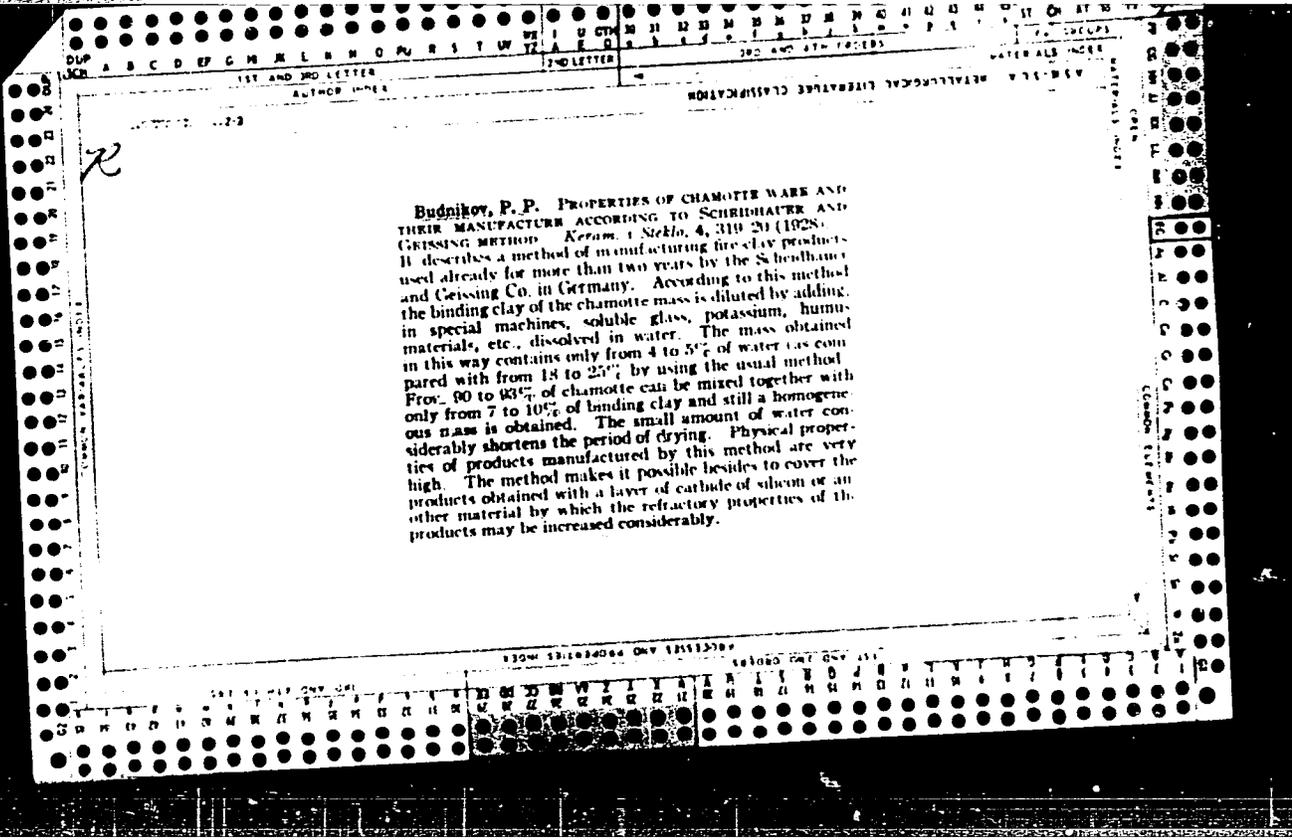
BUDNIK, Yu.; GRIGOR'YANTS, V.Kh.

~~XXXXXXXXXXXXXXXXXXXX~~  
Infection with brucellosis of ocular patients according to data of  
the ophthalmologic clinic of the Molotov Tashkent Medical Institute.  
Vest.oft. 30 no.1:13-14 Jan-Feb 51. (GLML 20:6)

1. Senior laboratory workers. 2. Of the Eye Clinic (Director--Hon-  
ored Worker in Science Uzbek SSR Prof. P.F. Arkhangel'skiy), Tashkent  
Medical Institute imeni V.M.Molotov.







A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
 1ST AND 2ND LETTER      3RD LETTER      4TH AND 5TH LETTER      MATERIAL INDEX

AUTHOR INDEX      DEPARTMENTAL LITERATURE CLASSIFICATION

R

Budnikov, P. P., and Smelyanskii, I. S. CHANGE OF QUARTZ INTO TRIDYMITE IN SILICA BRICK IN THE PRESENCE OF MINERALIZERS AND A PARTIAL SUBSTITUTION OF QUARTZILES BY SAND IN A SILICATE BED. *Trans. Ukrainian Sci. Research Inst. Silicate Ind. No. Techn. Dept. Supreme Council Nat. Econ. (U.S.S.R.), 2, 51 pp. (1929).*— (1) An addition of Marten slags to the batch aids the transformation of quartz into tridymites. (2) A 1% admixture of Marten slags to the batch produces silicates with a low specific gravity; 2% admixture increases the quantity of tridymite but also increases the specific gravity; 3% raises the content of tridymite but the specific gravity is also raised (3) An addition of more than 3% did not increase the content of tridymite but increased the specific gravity. It was also found that an addition of about 25% sand instead of quartzite does not lower the properties of silica brick and with a suitable firing these change into tridymite

COMMON VARIABLE INDEX      COMMON ELEMENTS

1ST AND 2ND LETTER      3RD LETTER      4TH AND 5TH LETTER

CO 20  
 Manufacturing of anhydrite cement. P. P. Ilyonikov. *Zh. Prikladn. Khim.*  
 2, 390-401(1929), cf. *C. A.* 20, 3142, 3222, 3540; 21, 300, 2177; *Zement*, 17, No. 6  
 (1928). *Stroitel'naya Promyshlennost* No. 6(1921), No. 4(1923), No. 8(1924),  
 No. 3(1926). - The best catalyst for mfg. anhydrite cement is a mixt. of  $\text{NaHSO}_4$   
 and  $\text{CuSO}_4$ . Anhydrite cement can be regenerated without further addn. of catalysts.  
 CaO reduces the strength of cement. Variations in the strength of cement with time  
 can be probably explained by formation of an unstable complex hydrate. V. K.

ASH 51A METALLURGICAL LITERATURE CLASSIFICATION

12

10-1-9

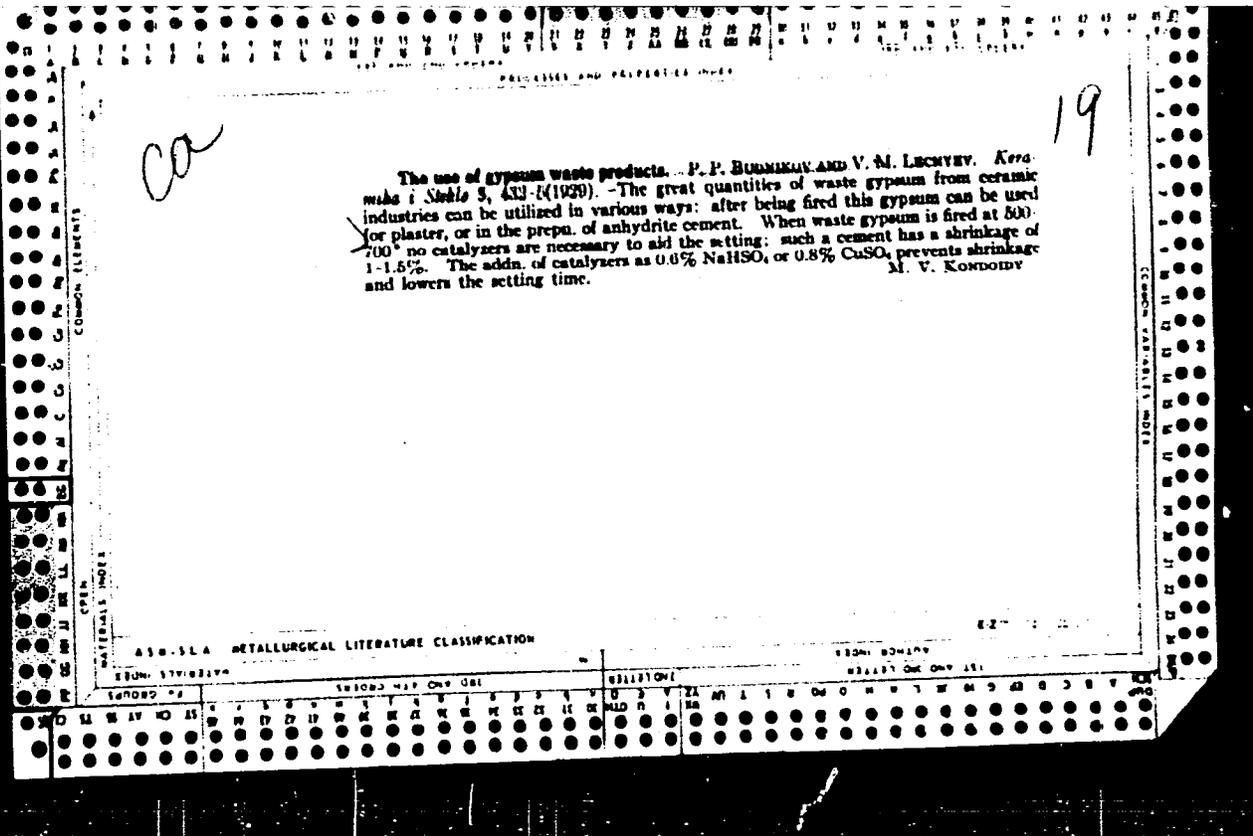
B

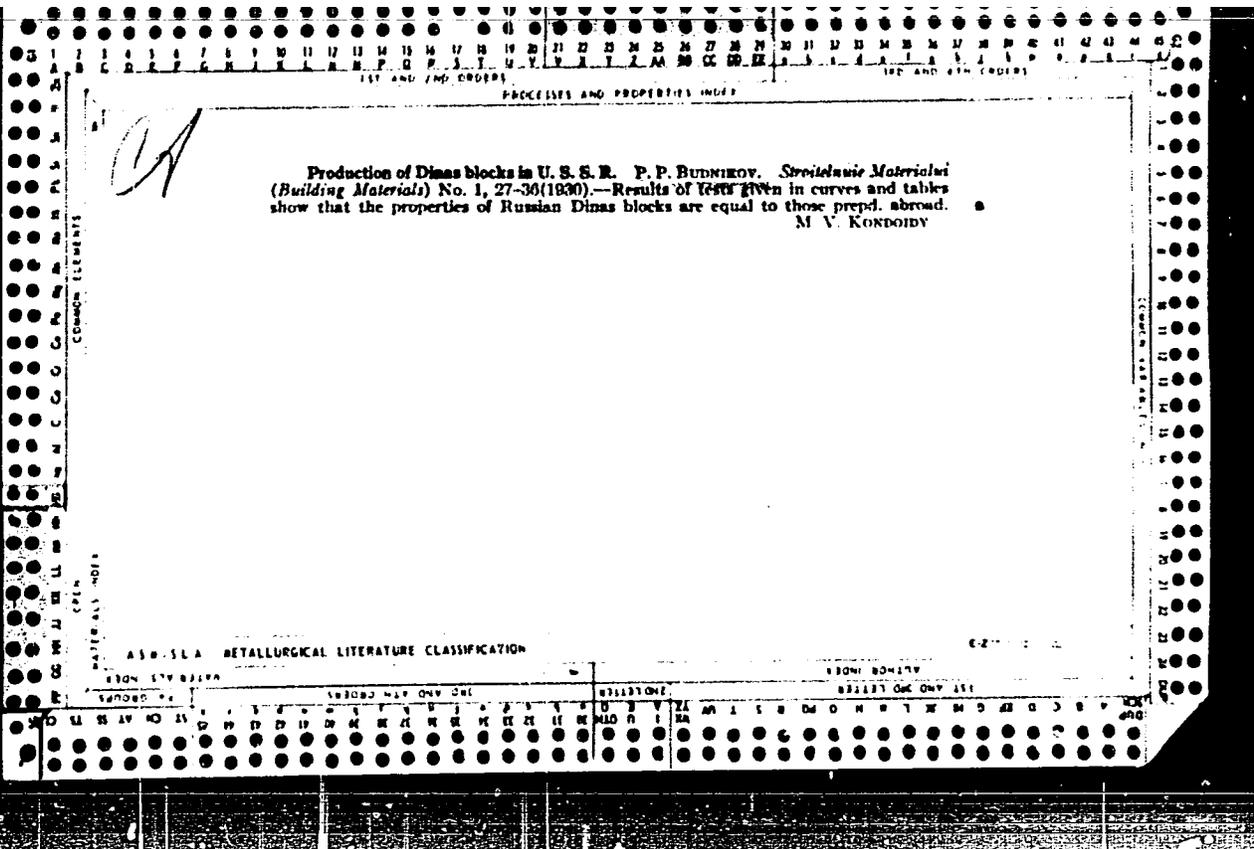
DEPENDENCE OF THE SOLUBILITY IN WATER OF THE SOLUBLE SUBSTANCES OF CLAYS AND CERAMICS ON THE TEMPERATURE OF CALCINATION. P. P. BUPYKOY (Ukrain. Chem. J., 1939, 4, [Tech.], 207-215).—The materials examined were Tichasov-Jarabi and Nikolaevski clays, Cetlinaki kaolin, porcelain from the Baranovski factory, clays from the Katsgorovski factory, and earthenware from the Budjanski factory, these being extracted with water after being heated at various temperatures, and the electrical conductivity of the solutions measured. With Tichasov-Jarabi clay, heating at 900° corresponds with the maximum formation of water-soluble products. With Nikolaevski clay the maximum solubility is obtained by heating at 750°, and with both this and the preceding clay the solubility is increased by boiling the material in water after calcination. Somewhat different results are obtained with the other materials. The varying behaviour is ascribed to chemical reactions between the components during the heating.

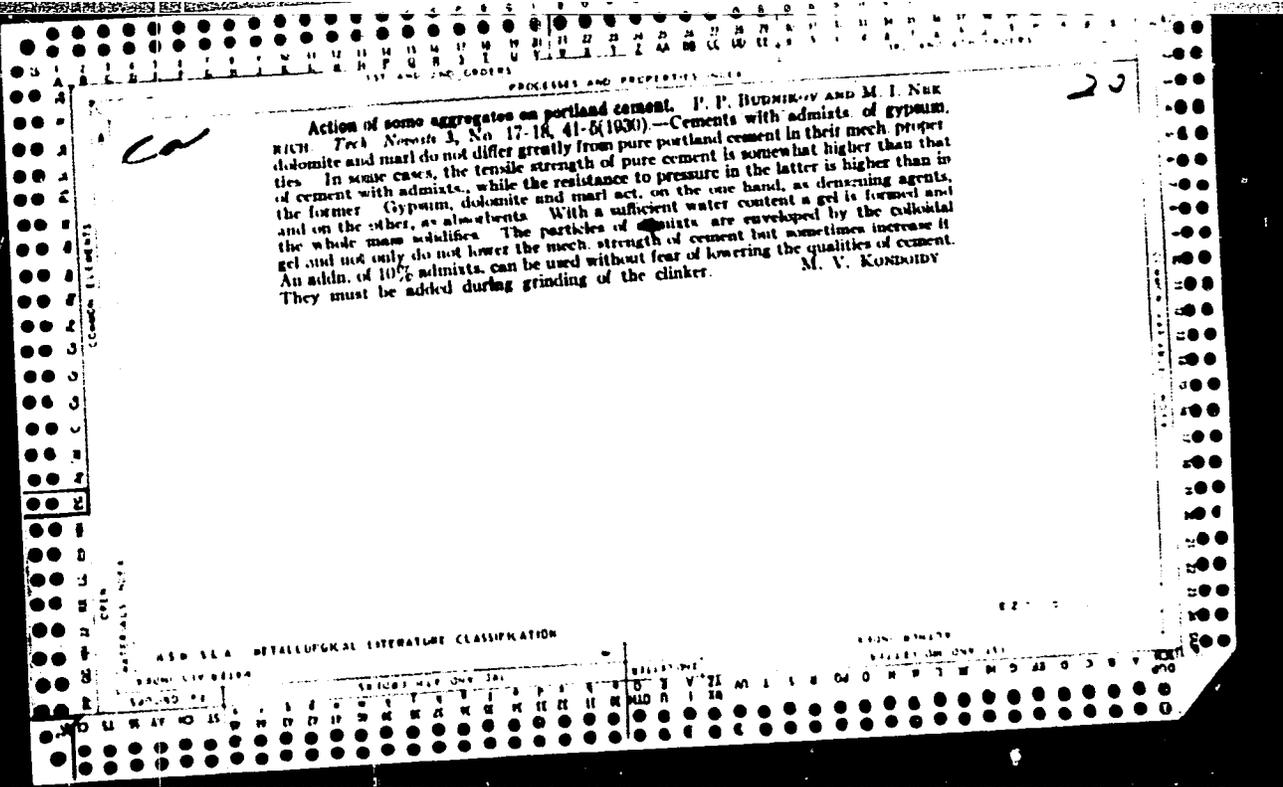
T. H. Park.

ASB.SLA METALLURGICAL LITERATURE CLASSIFICATION

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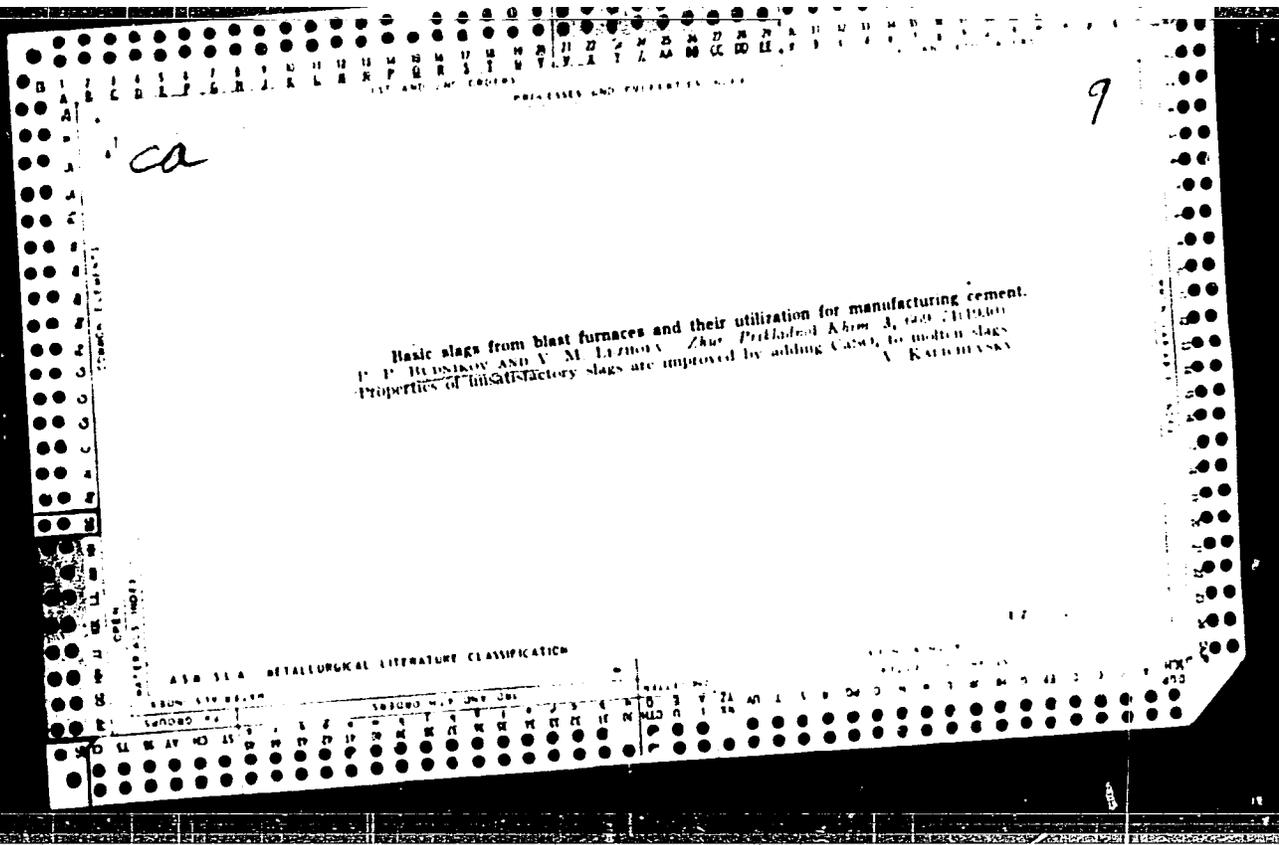
Processes and Properties Index

Theory of crushing. P. P. BUDNIKOV AND M. I. NEKRICH. *Zhur Prikladnoi Khimii* 3, 191 (1930) Review which emphasizes the inadequacy of our present methods of crushing. V. KALICHURSKI

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

GROUPS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



D U P A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
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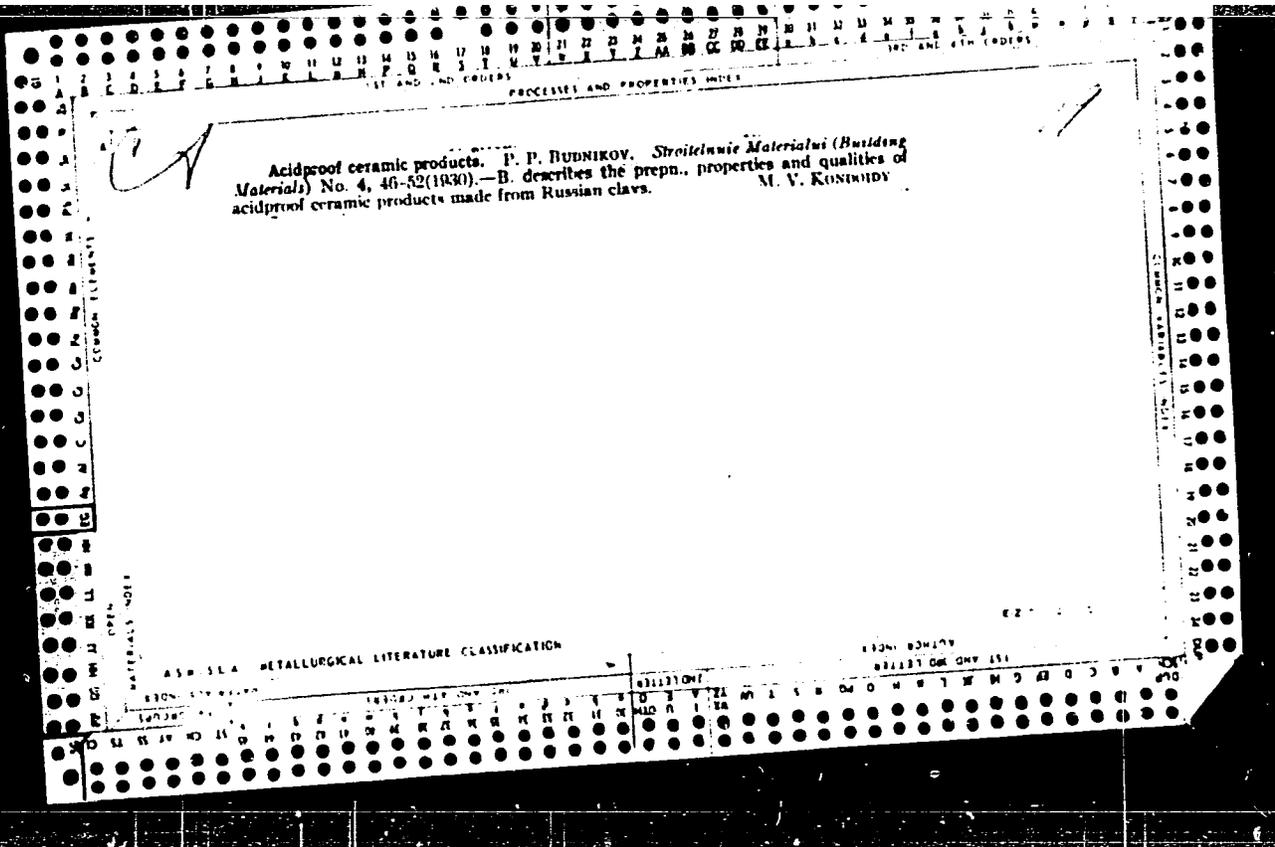
1ST AND 2ND LETTERS  
 3RD AND 4TH LETTERS

MATERIALS INDEX  
 AUTHOR INDEX  
 ABBREVIATED LITERATURE CLASSIFICATION

R

**Budnikov, P. P. TESTING STABILITY AGAINST SLAG.**  
*Stroitel' Materialy*, 1930, [4] 35-42 -B. reviews dif-  
 ferent methods for testing stability of refractory materials  
 to the action of slag and concludes that the methods used  
 do not represent actual working conditions in industry.  
 The testing samples used in the investigations made by  
 H. contained cavities which were filled with the corrod-  
 ing agents, i.e., powdered slag or glass. Graphite elec-  
 trodes were attached to the cavities and the electric current  
 for heating could be regulated and could maintain the  
 required temperature. This arrangement for testing the  
 stability of refractories to the action of slag corresponds  
 more exactly to the conditions prevailing in industry  
 than all other methods used.

1ST AND 2ND LETTERS  
 3RD AND 4TH LETTERS  
 5TH AND 6TH LETTERS  
 7TH AND 8TH LETTERS  
 9TH AND 10TH LETTERS  
 11TH AND 12TH LETTERS



1ST AND 2ND ORDERS      191 AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

COUCH (LITERATURE)

INTERNAL INDEX

OPEN

INTERNAL INDEX

OPEN

BC

Discussion of the water content of sludge in the manufacture of Portland cement by the wet process: influence of alkali substances on the kinetics of grinding materials for the manufacture of cement by the wet process. P. P. Buzanov, (I. V. Kuznetsov, and V. M. Lashov (Ukrainian Chem. J., 1930, 8, [Tech.], 37-39, 41-43).—The fluidity of Portland cement sludge containing 40% of distilled water is equal to that of a sludge made by adding 42% of 10-12N sodium carbonate solution. This entails an economy of 8-9% of fuel required for the preparation of dry cement, and permits a greater throughput for a given plant, by decreasing the bulk of the products. The fluidity of cement sludge is adversely affected by the presence of alkaline-earth ions in the water; hence the addition of any impurities precipitating these ions, such as carbonates, silicates, and sulfates, will augment the fluidity. The preparation of grains of small diameter obtained by grinding cement in the presence of 0.01N sodium carbonate solution is greater than when spring water is used. R. TRUKNOWSKI.

ASB-ISA METALLURGICAL LITERATURE CLASSIFICATION

190000	180000	170000	160000
150000	140000	130000	120000
110000	100000	90000	80000
70000	60000	50000	40000
30000	20000	10000	00000

PROCESSES AND PROPERTIES INDEX

Preparation of chamotte-free fireproof and acidproof objects. P. P. BUDNIKOV, S. N. ZHUKHARVICH AND I. G. SHAKHNOVICH. *Ukrainian Chem. Zhur.* 5, Tech. Pt.: 91-103 (in German 104) (1930).-- Chamotte-free fireproof and acidproof objects can be prep'd. by using artificially prep'd. lean lime to the extent of 85-93% of the mixt. The process lends itself easily to mech. treatment. For the dehydration of lime a drying drum is required working on the counter-current principle. To make brick by this process a pressure of 250 atm. is required. This method eliminates prep. the mixt before shaping the objects and drying before firing. S. I. MADORSKY

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COMMON ELEMENTS

MATERIALS INDEX

ASB-SLA METALLOGICAL LITERATURE CLASSIFICATION

FROM THE BOARD

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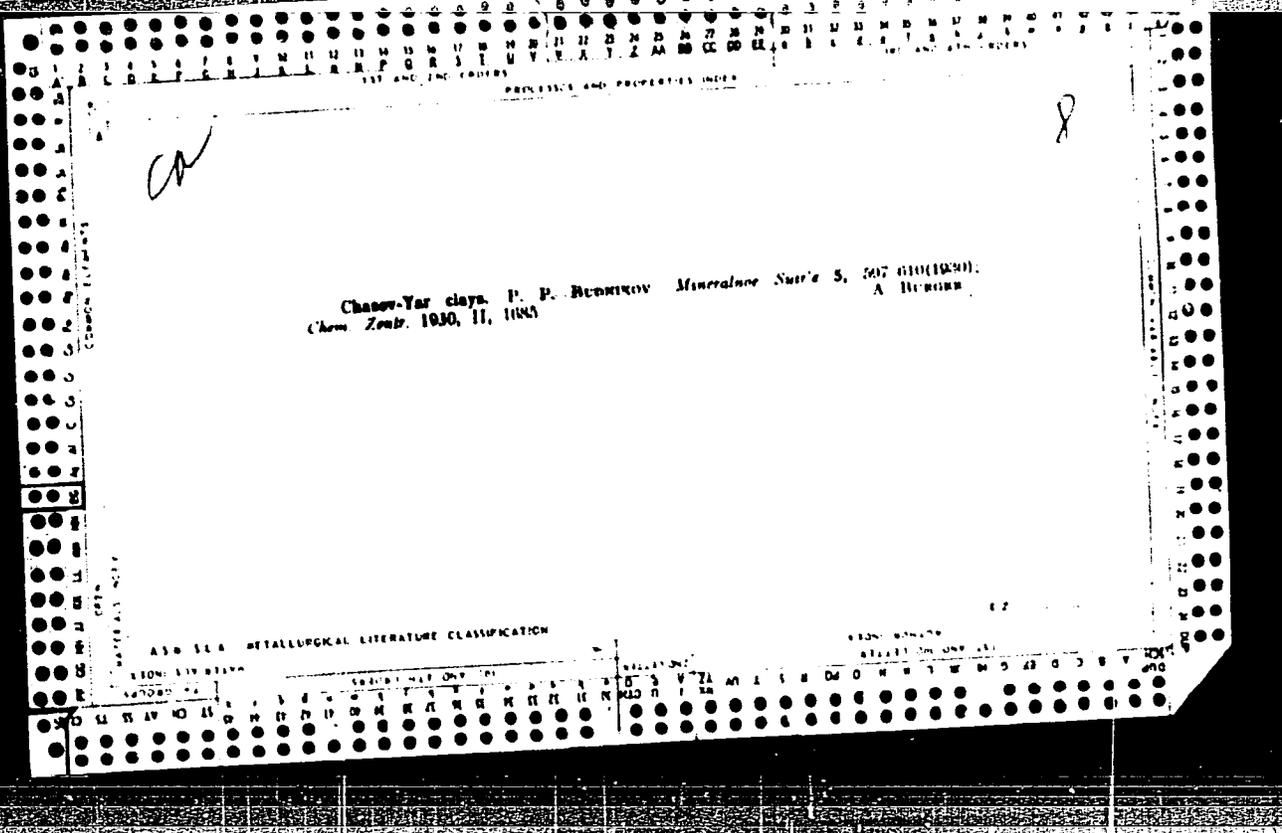
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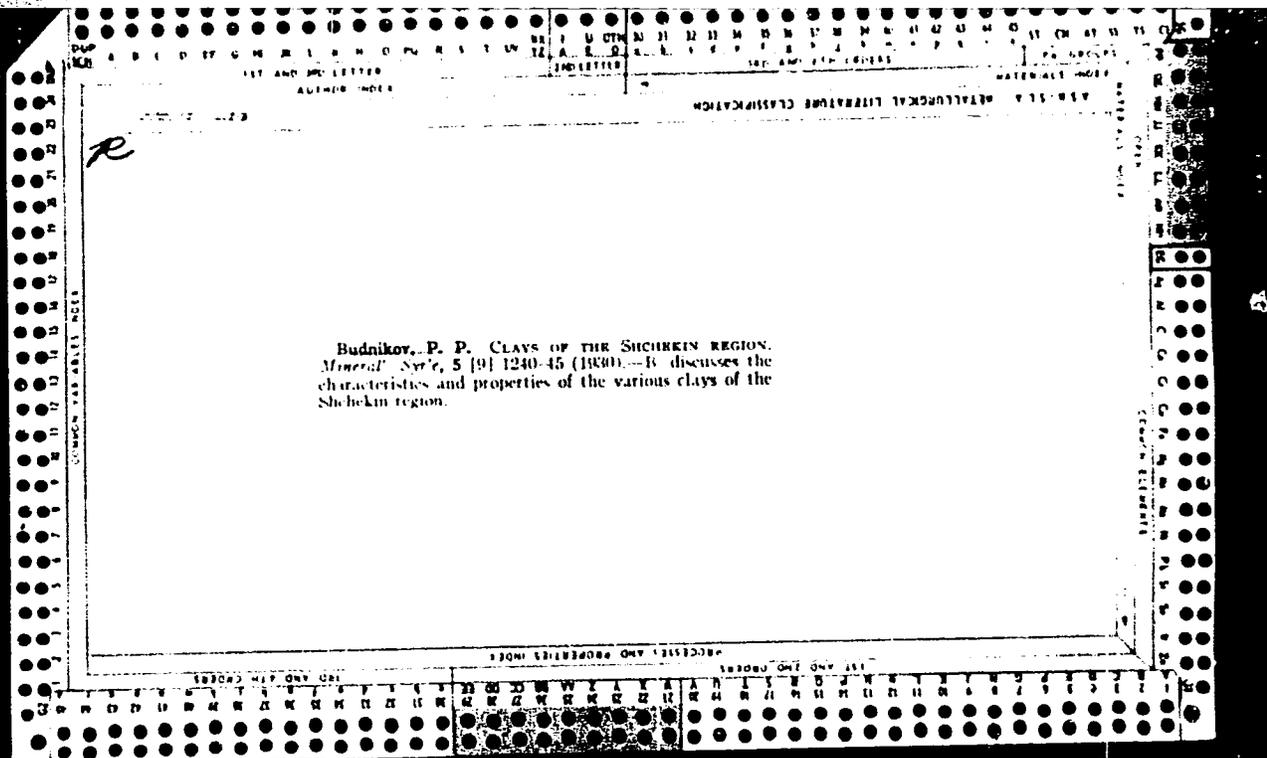
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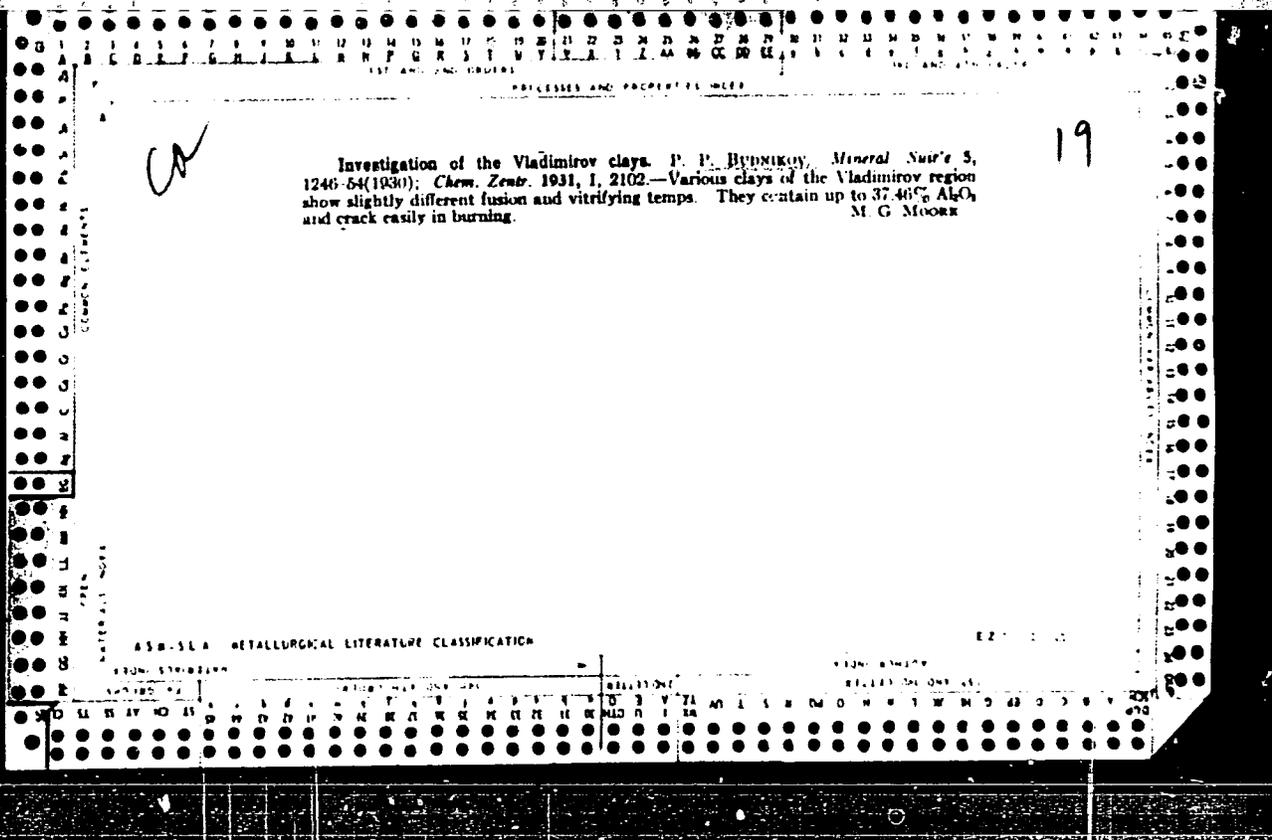
APR 1931

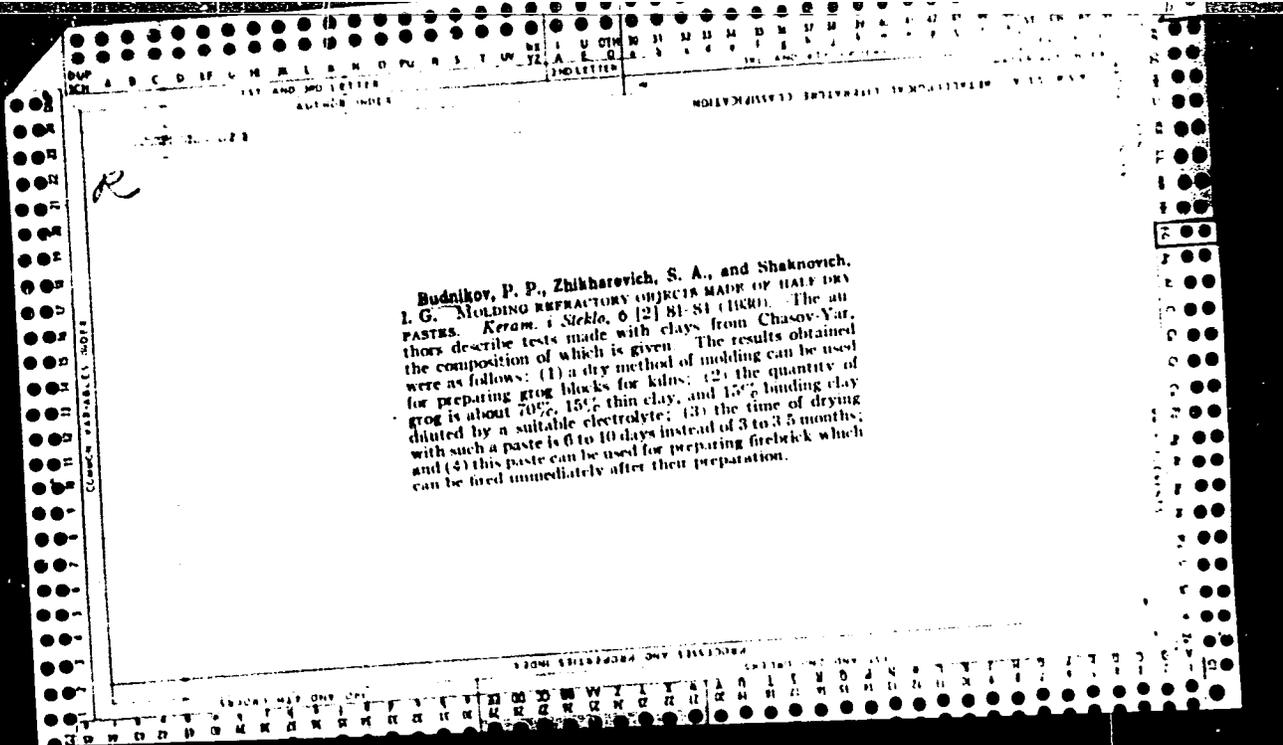
U.S. DEPARTMENT OF COMMERCE

BUREAU OF STANDARDS









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117 AND 120 BRIDGES  
PROCESSES AND PROPERTIES INDEX

C

BUDNIKOV, P. P., SMELIANSKII, I. S., AND ENDOVITZKY, V. I.  
Tests of refractory materials under pressure at high temperatures. Keram. i Staklo, 6 [4]192-95 (1930).--A description of tests with refractory materials under a pressure of 1 kg./sq. cm. at high temperatures is given. The experiments were made in electric kilns of Steger and Hirsch-Hecht. Grog blocks began to deform at 1250 to 1350°.

COMMON ELEMENTS  
MATERIALS INDEX

ASM-A METALLURGICAL LITERATURE CLASSIFICATION

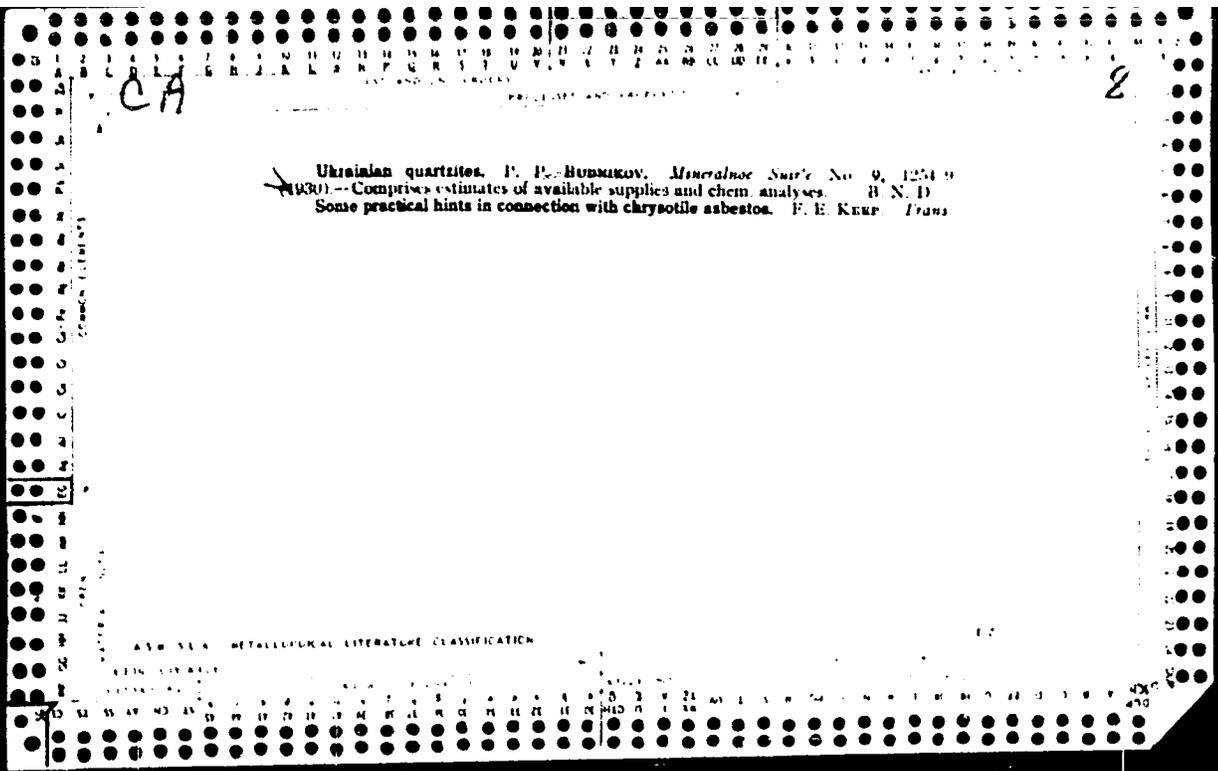
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BUDNIKOV, P. P.

A.S.R. 3. A METALLURGICAL LITERATURE CLASSIFICATION

Budnikov, P. P., and Loginov, S. P. MANUFACTURE OF REFRACTORY BRICK WITHOUT GROUT. *Keram. i Staklo*, 6 [11-12] 334-36 (1930). --The authors discuss the properties of refractory brick for steel foundries: (1) The refractoriness of the brick must not be lower than 1600°; (2) the brick must be stable to sudden temperature changes; (3) it must be mechanically stable, viz., the interior surfaces of the brick must not fuse when in contact with fused steel; (4) its structure must be homogeneous. The composition of such brick is given and their preparation, shaping, drying, and firing is described.



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

PROCESSES AND PROPERTIES

ca

Slag cement without clinker. P. P. BUDNIKOV AND V. M. LEZHNEV. *Sovetskoe Material* No. 9-10, 10-27(1800) Tests were made with slag cement in which the clinker was replaced by more active agents, i. e., gypsum fired at 700°, anhydrite cement and estrich gypsum. The results showed that the setting and hardening of slag cement was greatly increased and that the mech. properties of such cement were very high. Slags with a 4 or higher modulus can be used. Normal or acid sulfates added to the anhydrite regulate the setting time and the strength of slag cement without clinker. Tables are given showing the properties of these cements. M. V. K.

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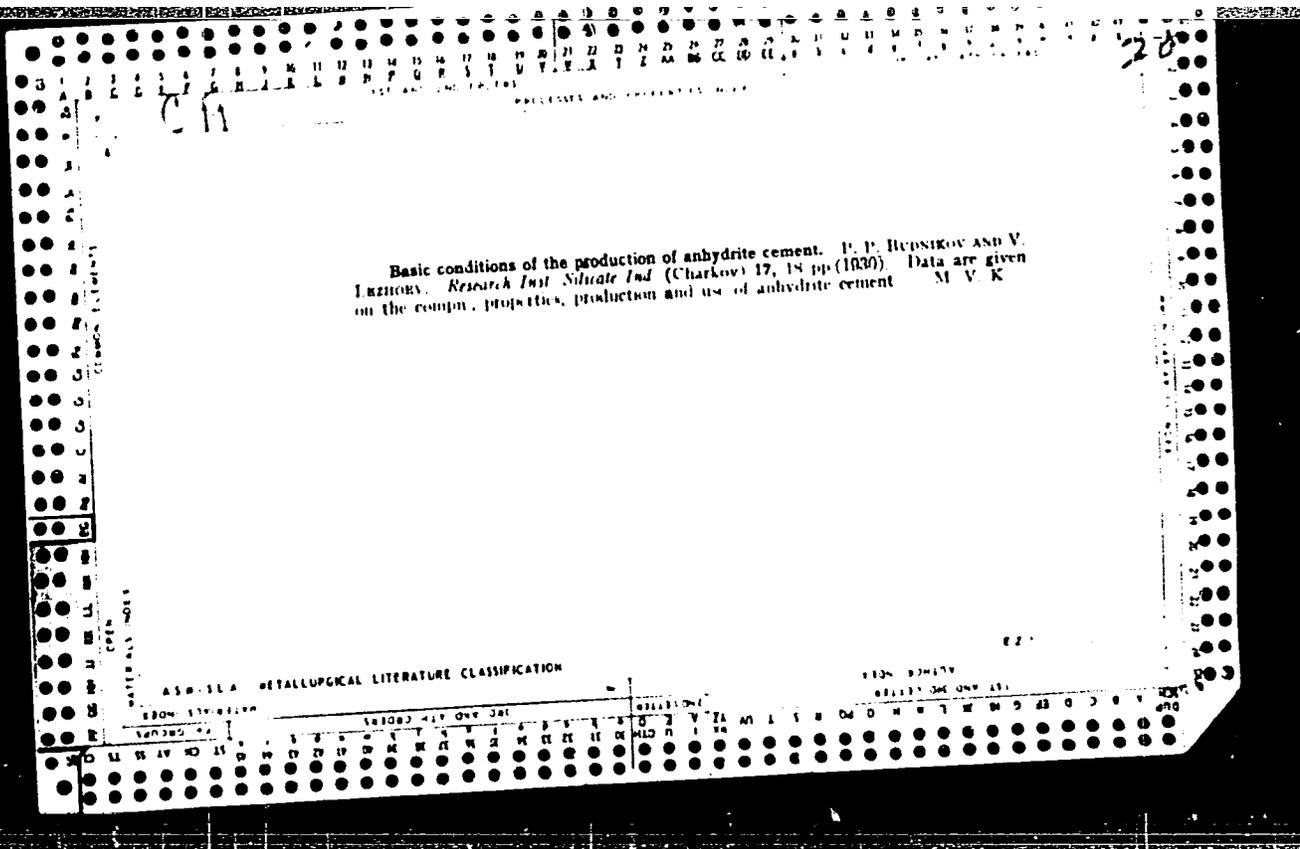
ASME 1964 METALLURGICAL LITERATURE CLASSIFICATION

62

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

1ST AND 2ND LETTERS													3RD AND 4TH LETTERS													5TH AND 6TH LETTERS												
AUTHOR INDEX													TITLE INDEX													SUBJECT INDEX												
COMMON VARIABLES INDEX													COMMON ELEMENTS													COMMON TERMS												
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PROCESSES AND PROCEDURES INDEX													MATERIALS INDEX													PROPERTY INDEX												

**Budnikov, P. P., Zhikharevich, S. A., and Shaknovich, I. G. MANUFACTURE OF REFRACTORY AND ACID-PROOF PRODUCTS FREE FROM GROG. *Ber. deut. keram. Ges.*, 11 [5] 275-81 (1930); *Ukrain. Khim. Zhur.*, 5, 93-104 (1930).**—As most of the costs are due to the preparation of the raw materials, e.g., firing the grog and drying the brick, the manufacture of the same products without grog is considered. Conclusions are as follows: (1) Refractory products, brick, etc., can be manufactured without grog by adding clay made lean by heating. (2) The manufacture can be mechanized entirely. For the dehydration of the clay, a drying drum can be used. (3) The drying is unnecessary. (4) It is unnecessary to have complicated and expensive equipment for preparing mixtures. (5) The material cost of the products will be lower.



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

PROCESSES AND PROPERTIES INDEX

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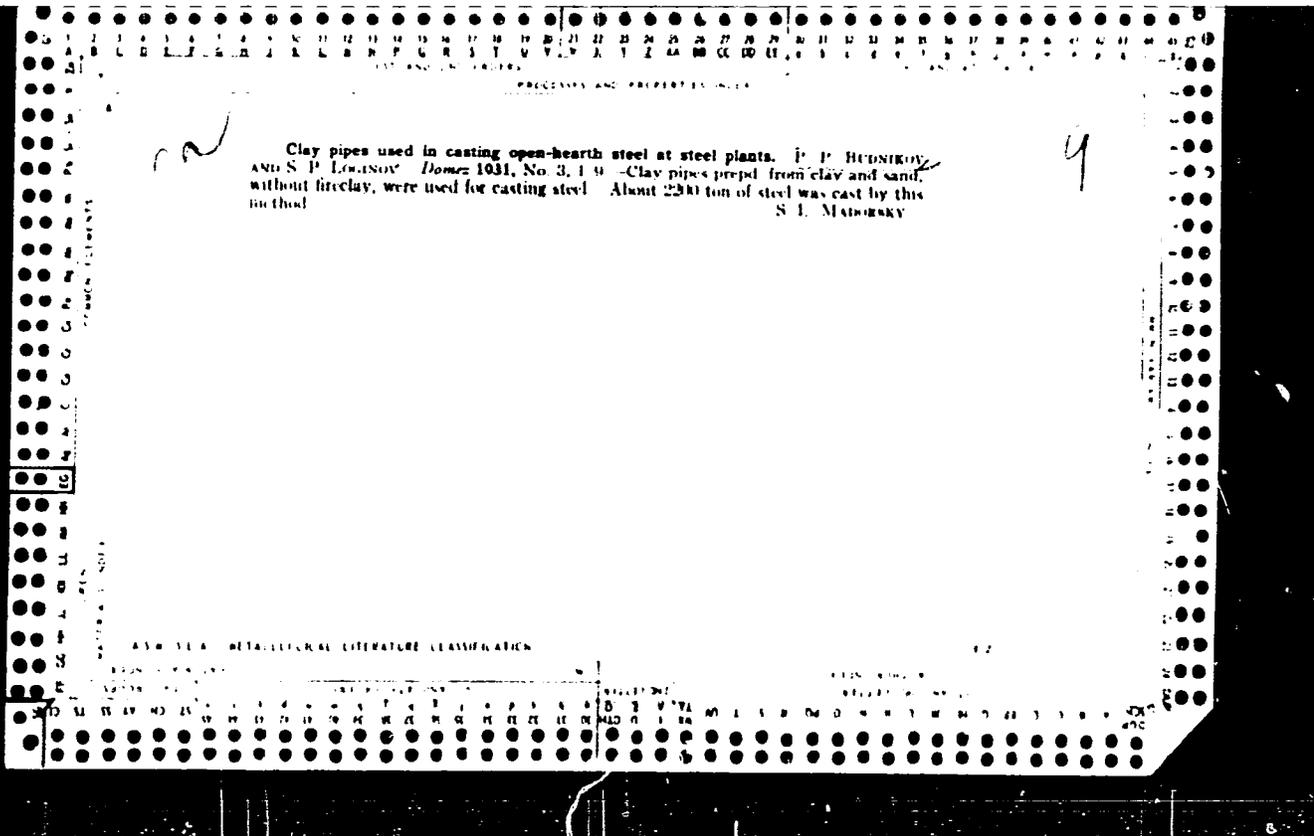
Gypsum. P. P. DUNNINOV. *Bull. acad. sci. U. R. S. S.* 1930, No. 77, 1-180 -A  
 collection of the papers published on the above subject by B. and co-workers from 1922  
 to 1928. B. C. A.

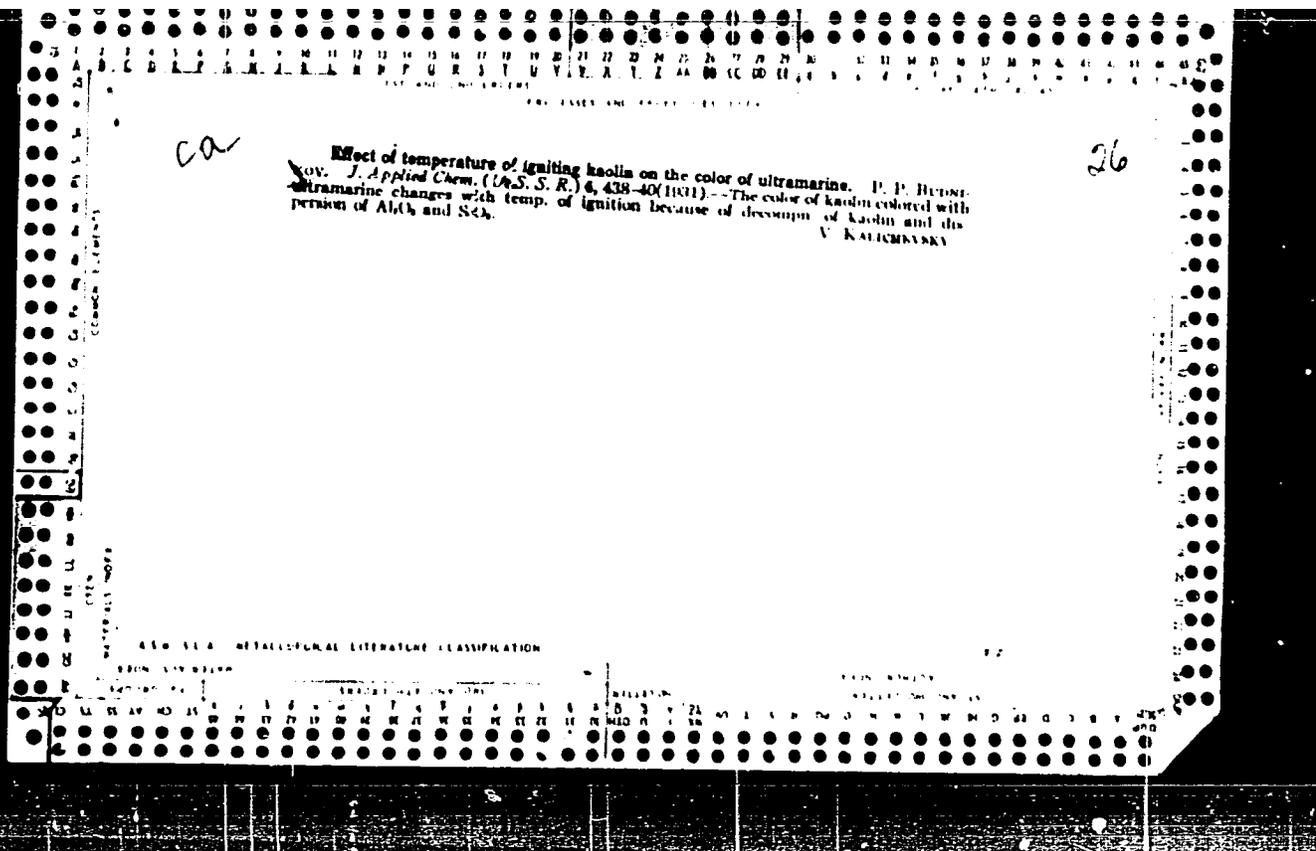
COMMON ELEMENTS

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

13000 530 85000

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PROCESSES AND PROPERTIES NOTES

9

Dolomite calcined at different temperatures and other substances as activators of the granulated slags of blast furnaces. P. P. BUDNIKOV AND E. GULINOVA. *Applied Chem (U. S. S. R.)* 4, 447-54(1931); cf. *C. A.* 25, 61 - Dolomite should be calcined at about 900°C.  
V. KALICHANSKY

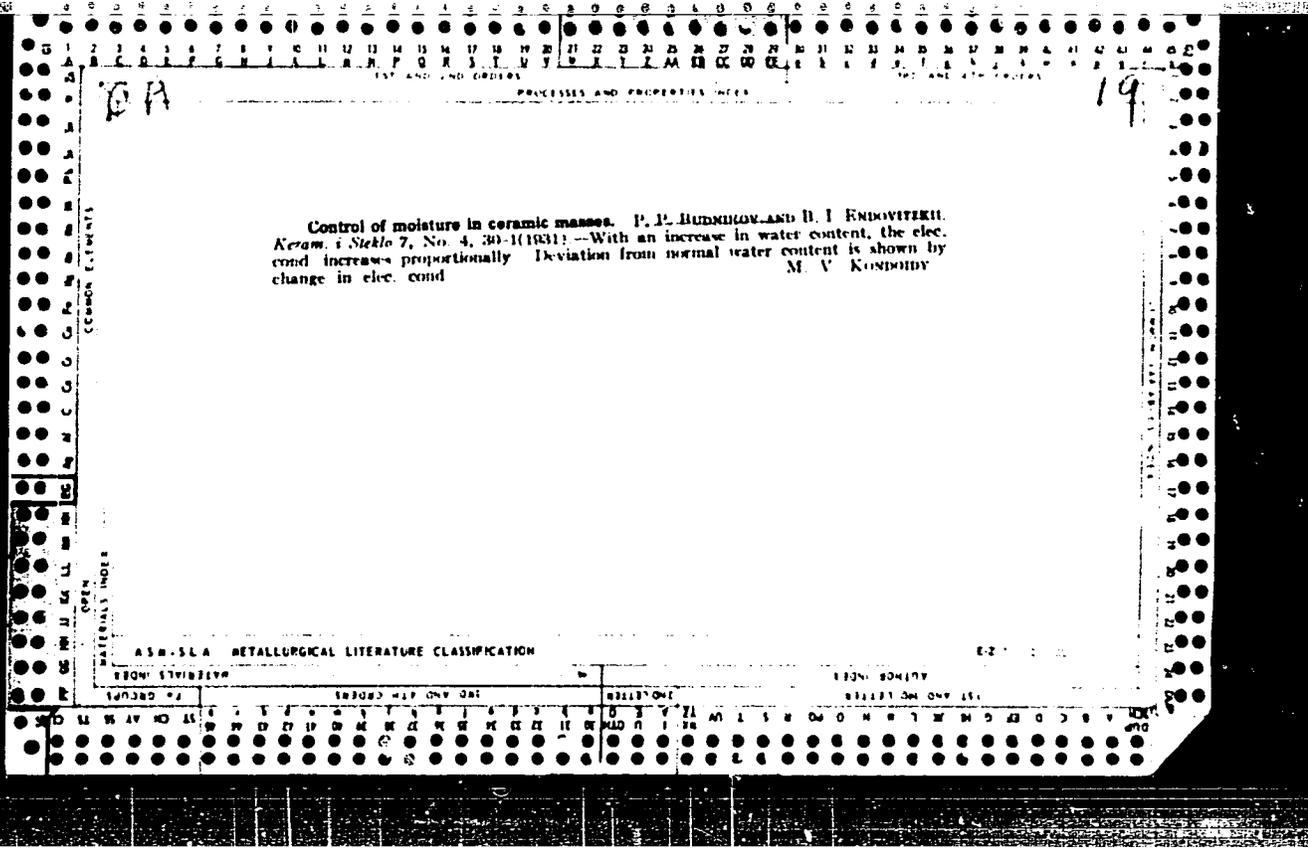
AS 5-51 A METALLURGICAL LITERATURE CLASSIFICATION

FROM 510001-511000

510001 510002 510003 510004 510005 510006 510007 510008 510009 510010 510011 510012 510013 510014 510015 510016 510017 510018 510019 510020 510021 510022 510023 510024 510025 510026 510027 510028 510029 510030 510031 510032 510033 510034 510035 510036 510037 510038 510039 510040 510041 510042 510043 510044 510045 510046 510047 510048 510049 510050 510051 510052 510053 510054 510055 510056 510057 510058 510059 510060 510061 510062 510063 510064 510065 510066 510067 510068 510069 510070 510071 510072 510073 510074 510075 510076 510077 510078 510079 510080 510081 510082 510083 510084 510085 510086 510087 510088 510089 510090 510091 510092 510093 510094 510095 510096 510097 510098 510099 510100



1ST AND 2ND ORDERS												3RD AND 4TH ORDERS											
PROCESSES AND PROPERTIES INDEX																							
Bc												B-I-10											
<p><i>Influence of "tripel" on the mechanic properties of Portland cement. E. P. HUDNISKY, L. G. GULINOV, and V. I. TOKAREV (Ukrain. Chem. J., 1951, 6, (Tech.), 13-16).—The addition of "tripel" (hydrated silicic acid) to Portland cement in certain cases increases its mechanical strength.</i></p> <p>H. TRUBKOWSKI.</p>																							
ASM-11A METALLURGICAL LITERATURE CLASSIFICATION																							
MATERIALS INDEX												EXTRACTS INDEX											
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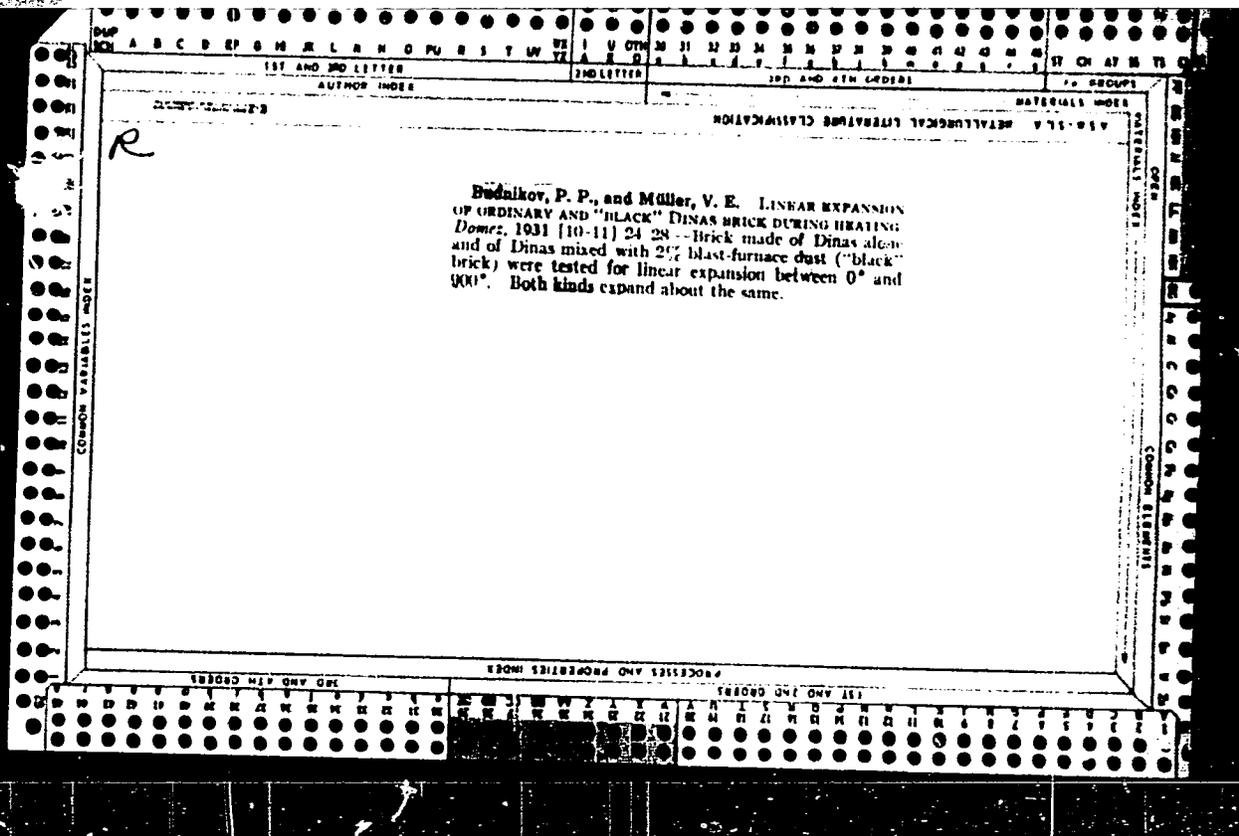
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ ] ^ \_ ` a b c d e f g h i j k l m n o p q r s t u v w x y z { | } ~

DEFINITIONS AND PROPERTIES INDEX

Defects in talence glazed ware caused by using quartz sand; reasons for their formation and means of removing them. P. P. BUDNIKOV AND M. I. SOLOMONOV. *Keram. i Steklo* 7, No. 7-8, 41-3(1931)--The formation of swellings and pits is due to the vol. change of the silica. Quartz sand should be fired before using it or the ware should be fired to 1280° to avoid these defects. M. V. KOSISOV

ASB 51.8 METALLURGICAL LITERATURE CLASSIFICATION

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52



1ST AND 2ND ORDERS      PROCESSES AND PROPERTIES INDEX      3RD AND 4TH ORDERS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

CA

7

Expansion of Chasov-Yar fire brick at high temperatures. P. P. BUDNIKOV AND V. E. MULLER. *Dokl. Akad. Nauk SSSR* 1931, No. 12, 11-14.—Two grades of Chasov-Yar fire brick, prepd. from grog and clay 50:50 and 55:45 were tested for expansion at temps. up to 1000°. The bricks had the following compn: SiO<sub>2</sub> 61.1-61.4, Al<sub>2</sub>O<sub>3</sub> 32.8-33.1, TiO<sub>2</sub> 0.9, Fe<sub>2</sub>O<sub>3</sub> 1.9-2.4, CaO 1.1-1.3%. Tables and curves are given showing phys. and mech. properties and coeffs. of thermal expansion of the bricks. S. L. MADORSKY

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS      3RD AND 4TH ORDERS

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

PROCESSES AND PROPERTIES INDEX

The tridymitization of quartz in silica brick in the presence of mineralizers and by partial replacing of quartzites by sand in the batches for silica brick making. P. P. Budnikoy and V. S. Smolyanski. *Trans. Ukrainian Sci. Research Inst. Silicate Ind.* [U. S. S. R.] 15, 28(1931); *J. Soc. Glass Tech.* 17, 314-15A. The Yasinovato-Avdeyevsky quartzites investigated have the following av. compn.: SiO<sub>2</sub> 91.92%, Al<sub>2</sub>O<sub>3</sub> 1.65, Fe<sub>2</sub>O<sub>3</sub> 1.76, CaO 0.74, MgO traces, loss on ignition 0.39. The sp. gr. is 2.645 and m. p. 1750°. From 62 batches of these quartzites with different addns. silica bricks have been prepd. Conclusions: (1) The quartzites were of av. quality in comparison with pure cryst. and so-called amorphous quartzites. They were slowly transformed, so that to obtain 1st-grade silica bricks either the burning temp. should be high (1460-70°) maintained for 24-8 hrs., or the quartzites should be mixed with those easy of conversion. (2) Of 3 mixts. with different granulometric compns. the most suitable had the following compn.: 10% grains from 5 to 2.5 mm., 40% grains from 2.5 to 1 mm., and 50% from 1 mm. to dust. (3) The open-hearth slags undoubtedly promote the tridymitization of quartz and the obtaining of uniform, dense bricks with true and strong corners and edges (without holes and flaws). These properties are obtained by addn. of 1-3% of open-hearth slags. It is not recommended to introduce into the batch more than 3% of open-hearth slags, as increase above this does not correspondingly increase the tridymitization of quartz.

(4) Phosphorites of Isyum are excellent mineralizers, promoting the transformation of quartz into tridymite and the obtaining of a uniform dense body. The optimum quantity of this addn. is 2-3% of the wt. of the dry substances of the batch. (5) Water glass is a more active mineralizer than open-hearth slags and phosphorites, but it gives a less dense body. The optimum quantity is 1%. (6) Mn oxides promote the conversion of quartz into tridymite. (7) Coal ashes of the av. compn. SiO<sub>2</sub> 37.10-49.45, Al<sub>2</sub>O<sub>3</sub> 38.00-15.58, Fe<sub>2</sub>O<sub>3</sub> 6.72-14.22, CaO 0.75-1.85, MgO 0.58-0.85, SO<sub>2</sub> 0.29-3.15 and P<sub>2</sub>O<sub>5</sub> 0.20-1.30% also promote the change of quartz into tridymite. The optimum quantity is 1%. (8) The addn. of burnt quartzites assists in lowering the sp. gr. of silica bricks, but, in general, not much. (9) The addn. of broken silica bricks up to 15% is desirable from all points of view. (10) By addn. of 25% of quartz sand, silica bricks are obtained not inferior in quality to those obtained from quartzites only. The optimum quantity of sand is 25% of the wt. of the dry substances in the batch. To obtain silica bricks with a greater mech. strength, it is recommended to add to such a sand-contg. batch 2% of open-hearth slags. (11) Molasses is a very useful addn., as by introducing it the "green" silica bricks acquire a greater strength, and the finished product has more regular corners and edges. It is necessary to introduce 0.25% (or a max. of 0.5%) of molasses to the wt. of the dry substances in the batch.

(OVER)

1ST AND 2ND LETTER	3RD LETTER	4TH AND 5TH LETTER	6TH GROUP
AUTHOR INDEX			MATERIALS INDEX
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100			
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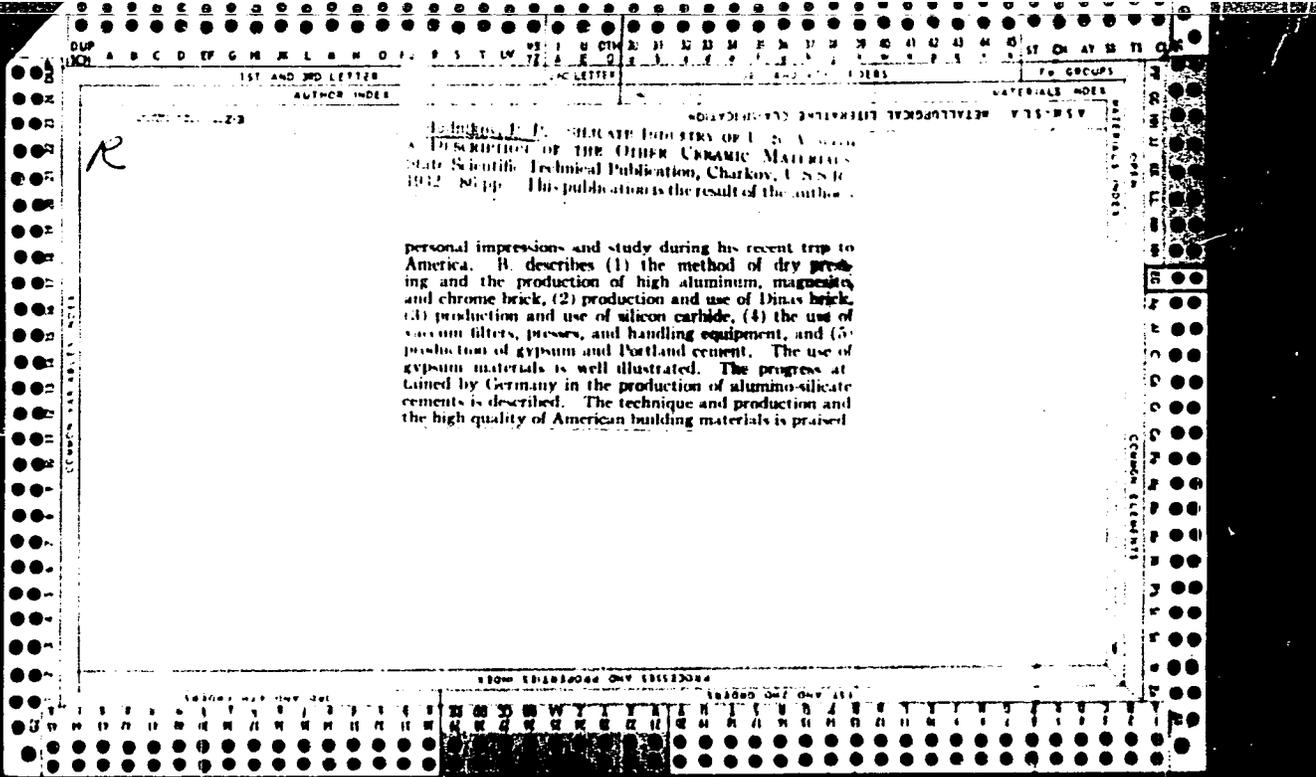
Budnikov, P. P., and Smelyanski, I. S. ON THE TRIDYMITIZATION OF QUARTZ IN SILICA BRICK IN THE PRESENCE OF MINERALIZERS AND BY PARTIAL REPLACING OF QUARTZ BY SAND IN THE BATCHES FOR SILICA BRICKMAKING. *Trans. Ukrainian Sci. Research Inst. Silicate Ind. Sci. Techn., Dept. Supreme Council Nat. Econ. (U.S.S.R.)*, 15, 28 pp. (1931).—The authors have continued their research on 42 other samples of Dinas blocks (see *Ceram. Abstracts*, 9 [7] 540 (1930)) and have obtained the following results: (1) Quartzites investigated can be used for preparing Dinas blocks only when fired to a high temperature (1400 to 1470°) and for a long time (24 to 48 hr.). (2) The grain size most suitable for their change into tridymite during firing was found to be a mixture composed of 10% grains from 5 to 2.5 mm. (3) The influence of different admixtures on the degree of conversion of quartz is as follows: (a) Martin slag promotes the process of converting quartz into tridymite (maximum 3%). (b) Phosphorites from Isium (from 2 to 3%) are good mineralizers converting quartz into tridymite and giving a dense homogeneous body. (c) Soluble glass (about 1%) is a strong mineralizer but produces a less dense body. (d and e) Manganese oxide and coke powder promote the conversion of quartz into tridymite. (f) Fired quartzites lower the specific gravity of Dinas blocks. (g) Fired Dinas (up to 15%) is desirable from every point of view. (h) Molasses (from 0.25 to 0.5%) promotes a greater durability of blocks. (i) Sand (up to 25%) promotes the conversion. (j) Clay up to 10% does not lower the quality of Dinas blocks.

1ST AND 2ND LETTER		3RD LETTER	3RD AND 4TH CODES		5TH CODES
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**Budnikov, P. P., Kukolev, G. V., and Smolyanskii, I. S.**  
**REFRACTORY MATERIALS FOR COKE KILNS. *Trans. Ukrainian Research Inst. Bldg. Materials*, No. 21, 80 (1931).**  
 The authors discuss (1) conditions of work of refractories in coke kilns, (2) kinds and quality of refractories for them, and (3) behavior of Dinas and half-acid brick used in coke kilns.

1ST AND 2ND LETTER		3RD LETTER	3RD AND 4TH CODES		5TH CODES
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1ST AND 2ND LETTER										3RD LETTER										4TH AND 5TH LETTERS										7+ GROUPS																																																	
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ASTONISHING INDEX																				COMMON VARIABLES INDEX																				COMMON VARIABLES INDEX																				COMMON VARIABLES INDEX																			
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A. P. U. S. A. METALLURGICAL LITERATURE CLASSIFICATION																																																																															
Budnikov, P. P., and Pevzner, R. L. MANUFACTURE OF Grog BRICK. Gosstroizdat, Moscow and Leningrad, 1932. 1.85 R. Reviewed in <i>Ferrous</i> , 9 [5] 79 (1933). This book describes the latest achievements in the field of the production of grog brick in Europe and the U. S. It comprises (1) characteristics, (2) obtainment, (3) control and properties of raw materials, (4) firing and grinding of grog, (5) preparation of the mix, (6) molding and shaping, (7) drying and firing the products, and (8) the firing of the furnace. Estimation of quality and standard specifications of grog brick are given also.																																																																															
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PROCESSES AND PROPERTIES INDEX

18

Utilization of waste products in the production of alumina from kaolin. J. P. Budnikoy and V. M. Dorofeev. *Ukrain. Khim. Zhur.* 7, Wiss.-tech. Abt. 185-R(1932); cf. *C. A.* 27, 1123.—The waste products obtained in the extn. of alumina from kaolin by the Shmatko soda process were added to the mixes. in the production of anhydrite cement and anhydrite-dolomite cement with good results. Chas. Blanc

A.S.S.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

E 2

Budnikov, P. P., and Endovitzkii, V. I. INTRODUCING BINARY KAOLINS INTO THE FIRE-CLAY MIX IN ORDER TO INCREASE ITS ALUMINA CONTENT AND REFRACTORINESS. *Dokl. Akad. Nauk SSSR*, 1932 [1-2] 1: 13; *Izv. Vuzov, Khim. Tekhnol. Gorn. Prom.*, 13 [no. 25] 16 (1932). With the view of improving the quality of some Russian firebrick, experiments were conducted in which binary kaolins were added to the fire-clay mix. Four brick samples, containing 57.68, 56.75, 55.59, and 55.21% SiO<sub>2</sub>, respectively, and 36.07, 37.33, 37.99, and 39.25% Al<sub>2</sub>O<sub>3</sub>, respectively, were prepared. These samples were burned at 1350°. The resulting properties were: mechanical strength 239, 255, 289, and 298 kg./sq. cm.; refractoriness 1720°, 1735°, 1740°, and 1745°; beginning of deformation under 2 kg./sq. cm. pressure 1395°, 1365°, 1375°, and 1400°. A semicommercial plant for the manufacture of brick of the fourth type is recommended.



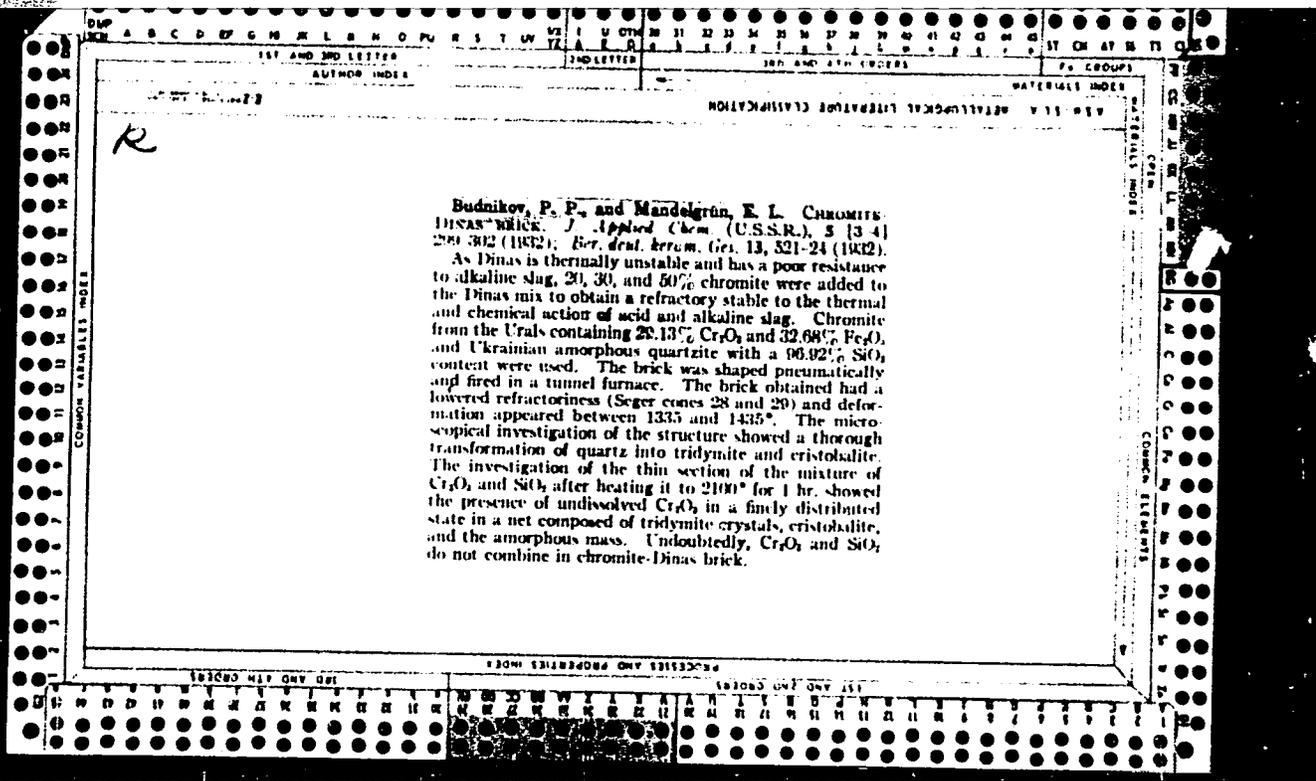
PROCESSES AND PROPERTIES IN THE

MANUFACTURE OF PORTLAND CEMENT FROM ANHYDRITE AND GYPSUM.

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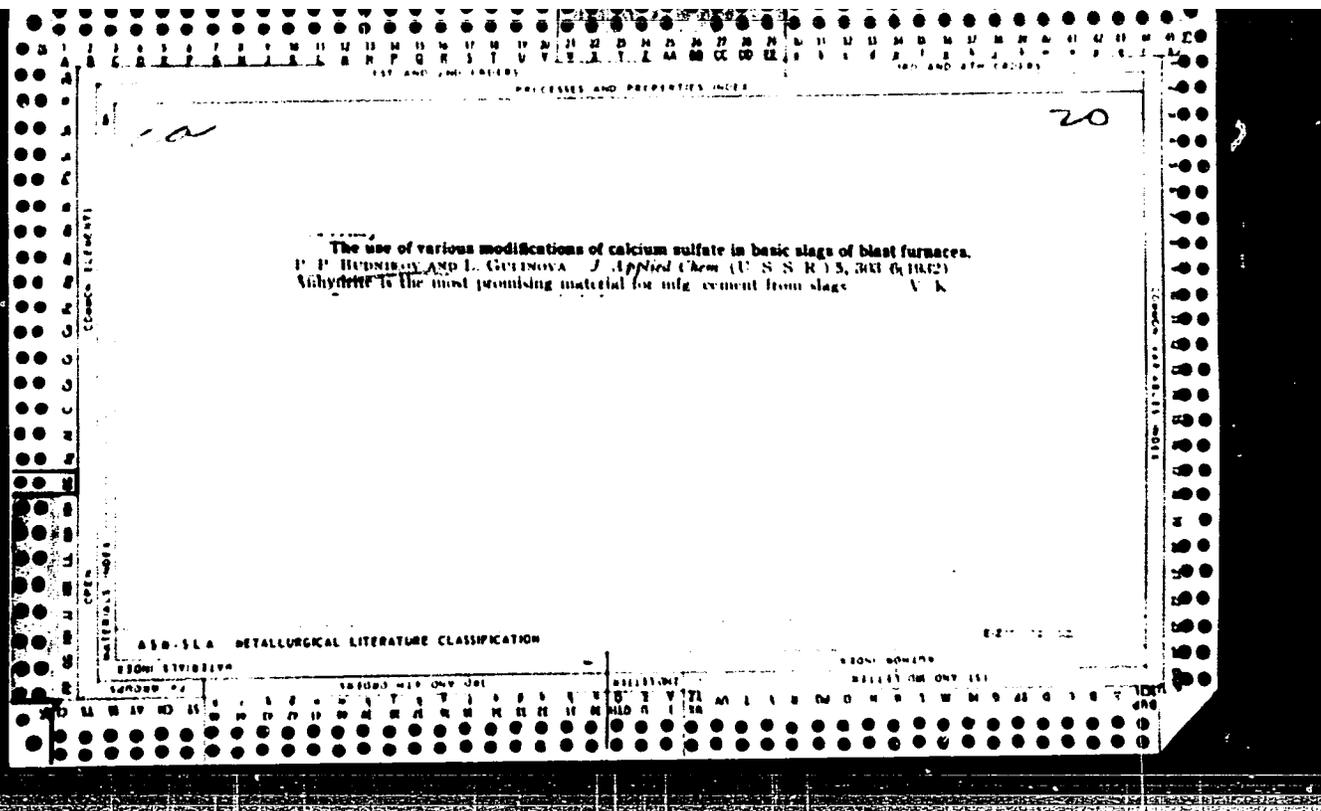
P. I. HUPNIKOV,  
 AND M. I. NERKICH. *J. Applied Chem. (U. S. S. R.)* 5, 173 (1952). cf. C. I. 25,  
 5744 - Anhydrite and gypsum are both suited for mfg. H<sub>2</sub>SO<sub>4</sub> with simultaneous  
 production of portland cement. The following difficulties arise: the temp. best  
 suited for decompn. of CaSO<sub>4</sub> is close to its m. p.; the CaSO<sub>4</sub>, CaO which is formed  
 during decompn. also has a low m. p.; COS is formed in the reducing atm. Expts. on a  
 com. scale can alone det. the practicability of the process. V. KALICHEVSKY

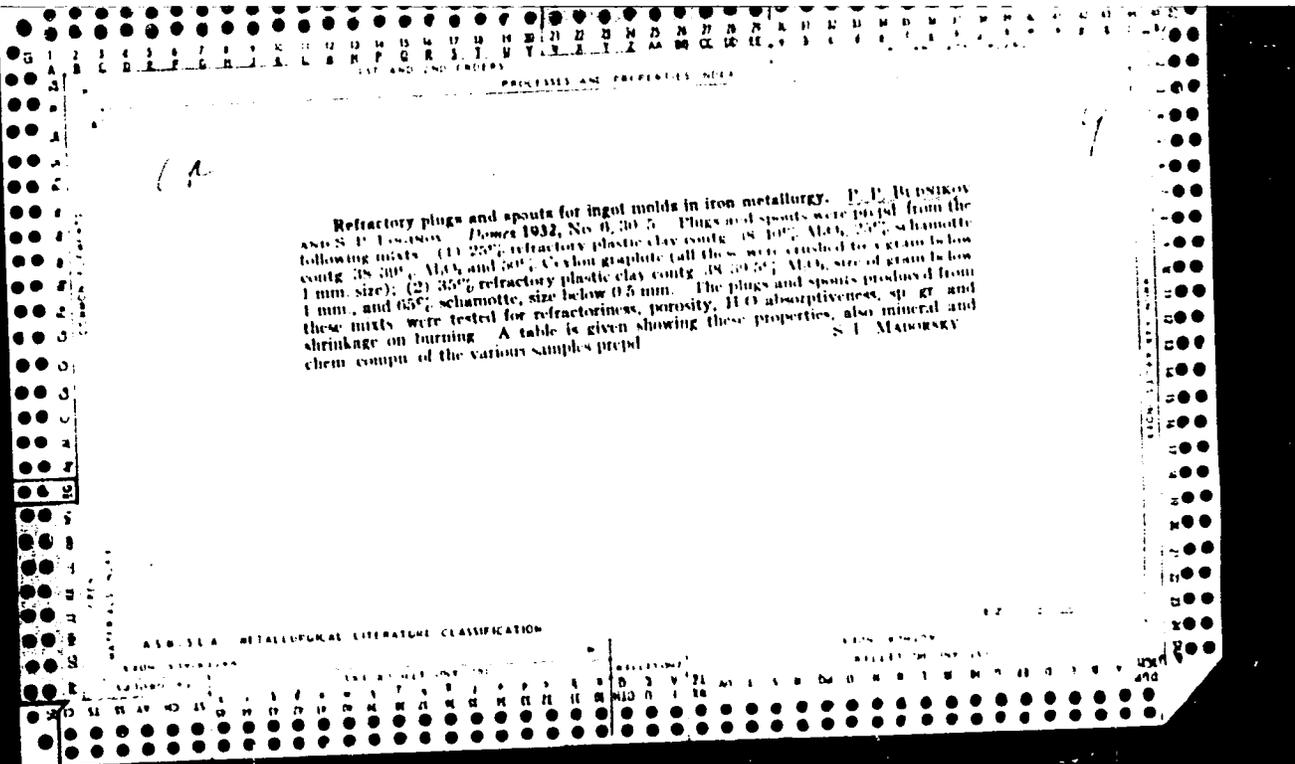
METALLURGICAL LITERATURE CLASSIFICATION

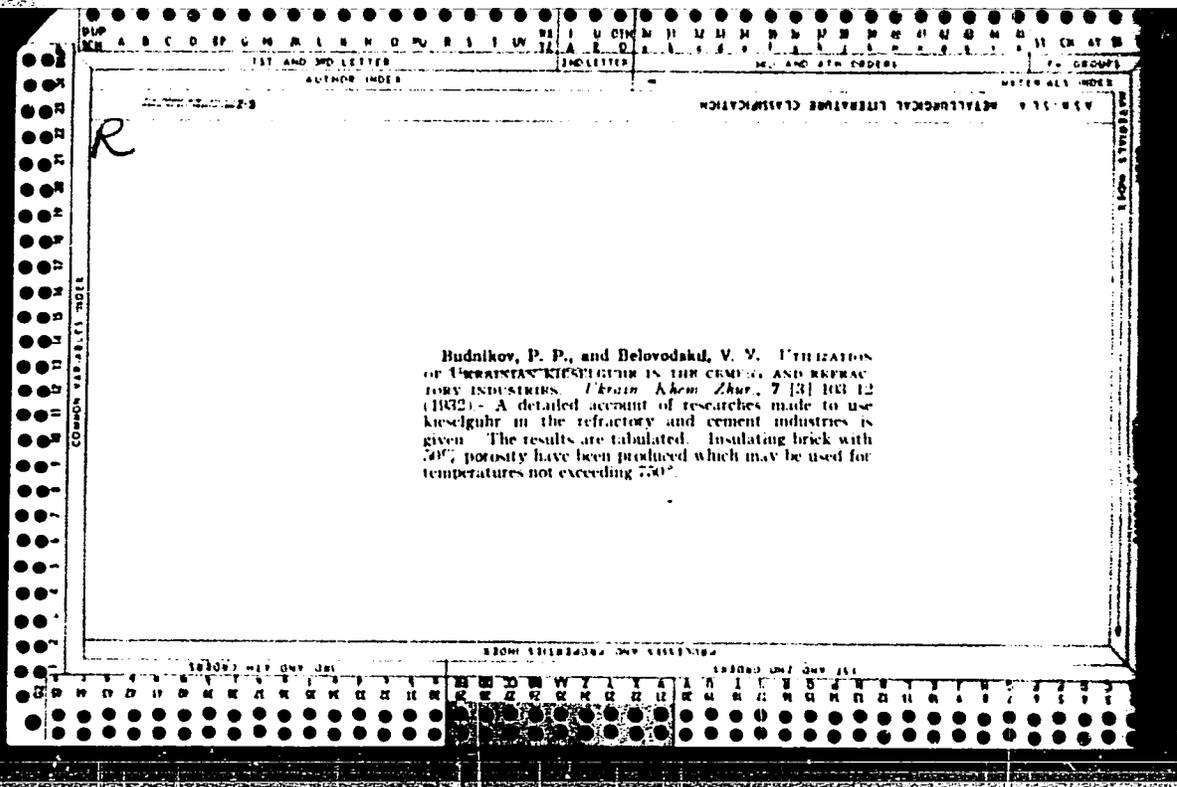


Budnikov, P. P., and Mandelgerin, E. L. Chromite-Dinas Brick. *J. Applied Chem. (U.S.S.R.)*, 5 (3-1): 200-202 (1932); *Ber. deut. keram. Ges.* 13, 521-24 (1932).

As Dinas is thermally unstable and has a poor resistance to alkaline slag, 20, 30, and 50% chromite were added to the Dinas mix to obtain a refractory stable to the thermal and chemical action of acid and alkaline slag. Chromite from the Urals containing 20.13%  $Cr_2O_3$  and 33.08%  $FeO$ , and Ukrainian amorphous quartzite with a 10.02%  $SiO_2$  content were used. The brick was shaped pneumatically and fired in a tunnel furnace. The brick obtained had a lowered refractoriness (Seger cones 28 and 20) and deformation appeared between 1335 and 1435°. The microscopical investigation of the structure showed a thorough transformation of quartz into tridymite and cristobalite. The investigation of the thin section of the mixture of  $Cr_2O_3$  and  $SiO_2$  after heating it to 2100° for 1 hr. showed the presence of undissolved  $Cr_2O_3$  in a finely distributed state in a net composed of tridymite crystals, cristobalite, and the amorphous mass. Undoubtedly,  $Cr_2O_3$  and  $SiO_2$  do not combine in chromite-Dinas brick.







1ST AND 2ND EDITS) PROCESSES AND PROPERTIES INDEX 3RD AND 4TH EDITS)

BC

B-1-10

Utilization of waste products from manufacture of alumina from bauxite. P. P. Bygomy and V. M. Domanov (Ukrain. Chem. J., 1965, 7 [Tech.], 166-168).—The waste products (average  $SiO_2$  30.8,  $Al_2O_3$  7.0,  $Fe_2O_3$  1.25,  $CaO$  26.8,  $K_2O$  2, and  $Na_2O$  13.3%) can be utilized in the manufacture of Portland and anhydrite cement. R. T.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

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190000 191000 192000 193000 194000 195000 196000 197000 198000 199000

1ST AND 2ND ORDERS      3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

BC B-1-10

Utilization of Krivoi Rog clinker for manufacture of clinker Portland cement. P. P. Buzenkov and L. GULINOVA (Ukrain. Chem. J., 1962, 7 [Tech.], 205-212). — Krivoi Rog clinker mixed with 15-30% of Portland cement yields satisfactory cement. R. T.

COMMON VARIABLES INDEX

COMMON LITERATURE

MATERIAL INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

ALPHABET INDEX

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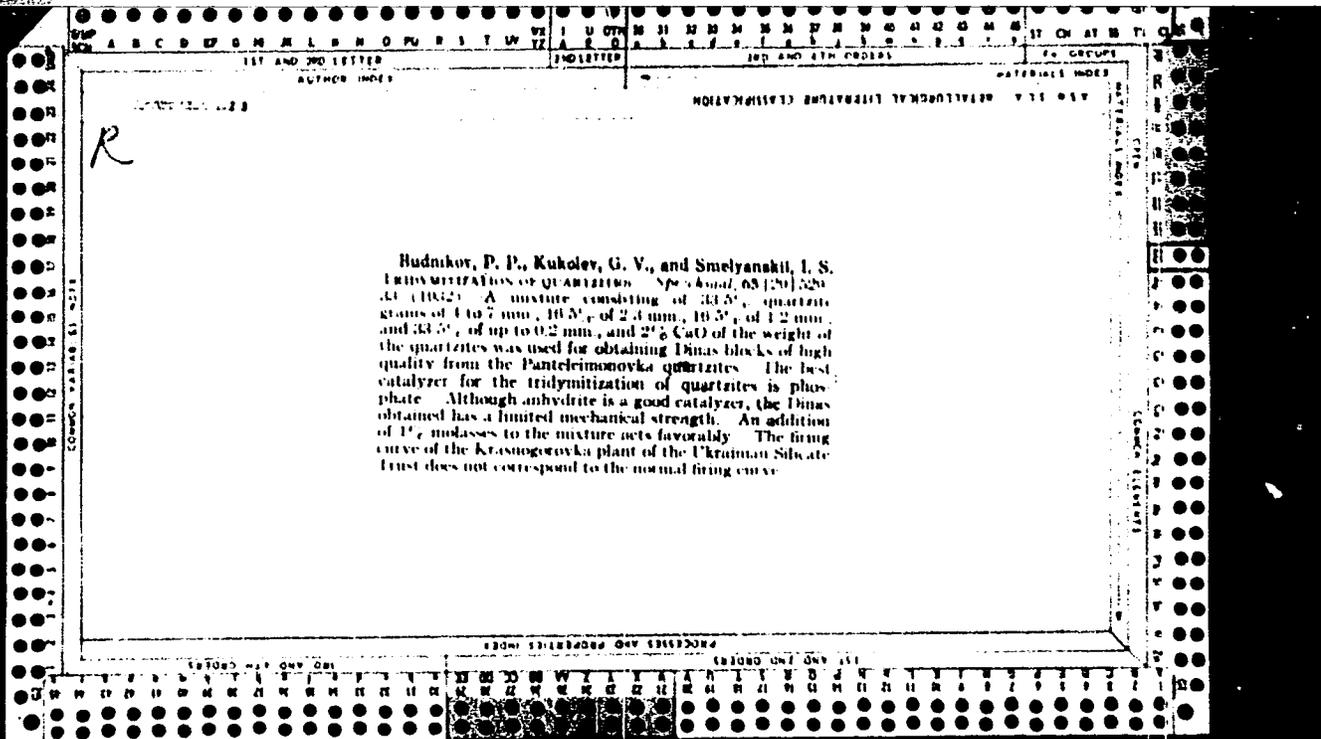
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*K*

**Budnikov, P. P., and Tabakov, Z. Ya. MAGNESITE REFRACTORIES.** *Dokl.* No 9, pp 24-31 (1962). An account is given of the commercial aspects of the refractories industry. Special reference is made to the economic aspects of magnesite refractories.

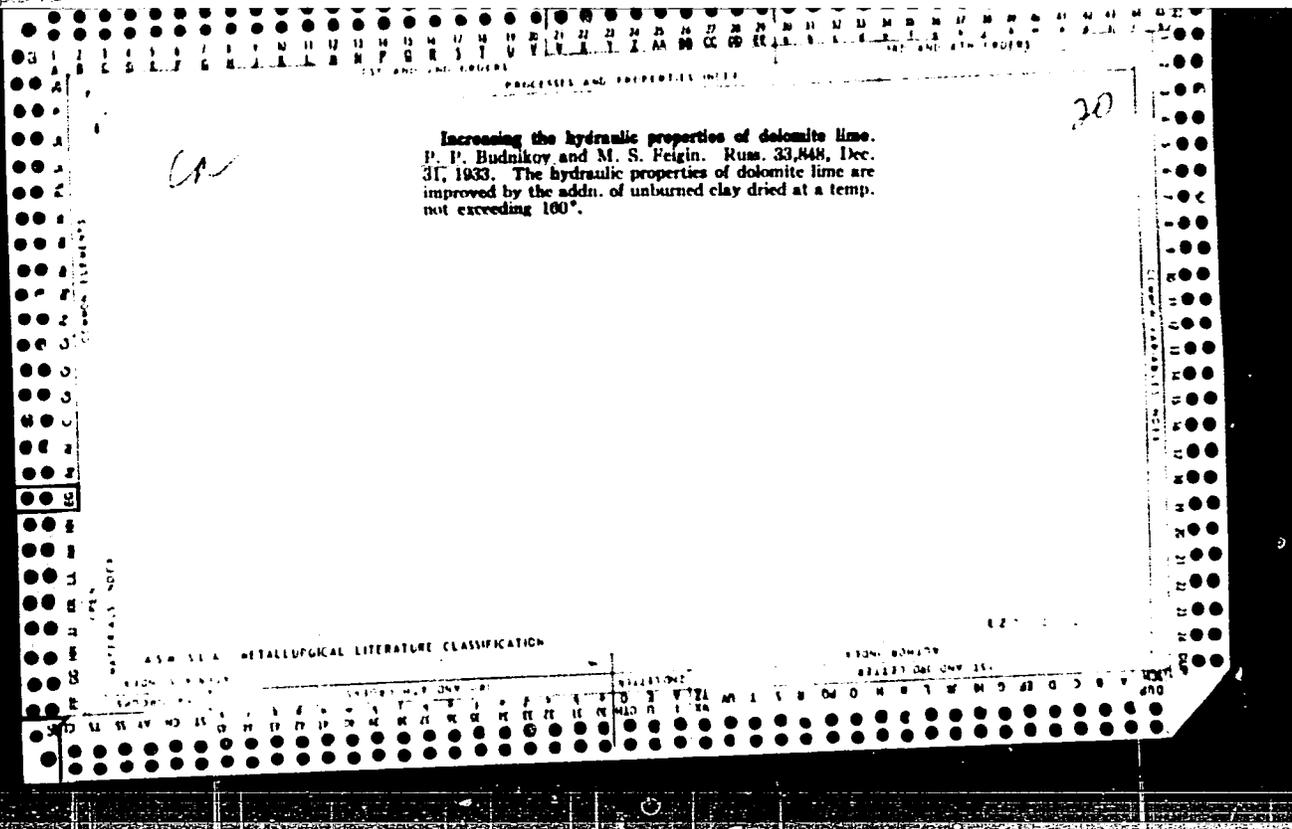




20

**Cement free of clinkers.** P. P. Budnikov and L. G. /  
Gulnova. Russ. 31,245, Sept. 30, 1962. In the prepa-  
ration of a clinkerless cement by grinding together blast-furnace  
slag and burned dolomite, instead of synthetic anhydrite  
(gypsum burned at 700-800°), natural anhydrite is ap-  
plied, and instead of caustic dolomite, which was burned  
at a temp. not exceeding 800 (900)°, dust obtained as waste  
on burning metallurgical dolomite is used.

ASB-SEA METALLURGICAL LITERATURE CLASSIFICATION



117 AND 120 SERIES

PROCESSES AND PROPERTIES INDEX

NO. AND FILE NUMBER

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BUDNIKOV, P. P., AND SMELYANSKII, V. S. O neupory v Metallurgii.  
 Gosdarst. Nauch.-Tekh. Izdatelstvo Chernoi i Tsvetnoi Metallurgii,  
 Moscow, 1933, 68-81.—Discussion of "Employing black dins in  
 Martin furnaces" is found on the above pages.

Common Elements

Materials Index

ASG-31A METALLURGICAL LITERATURE CLASSIFICATION

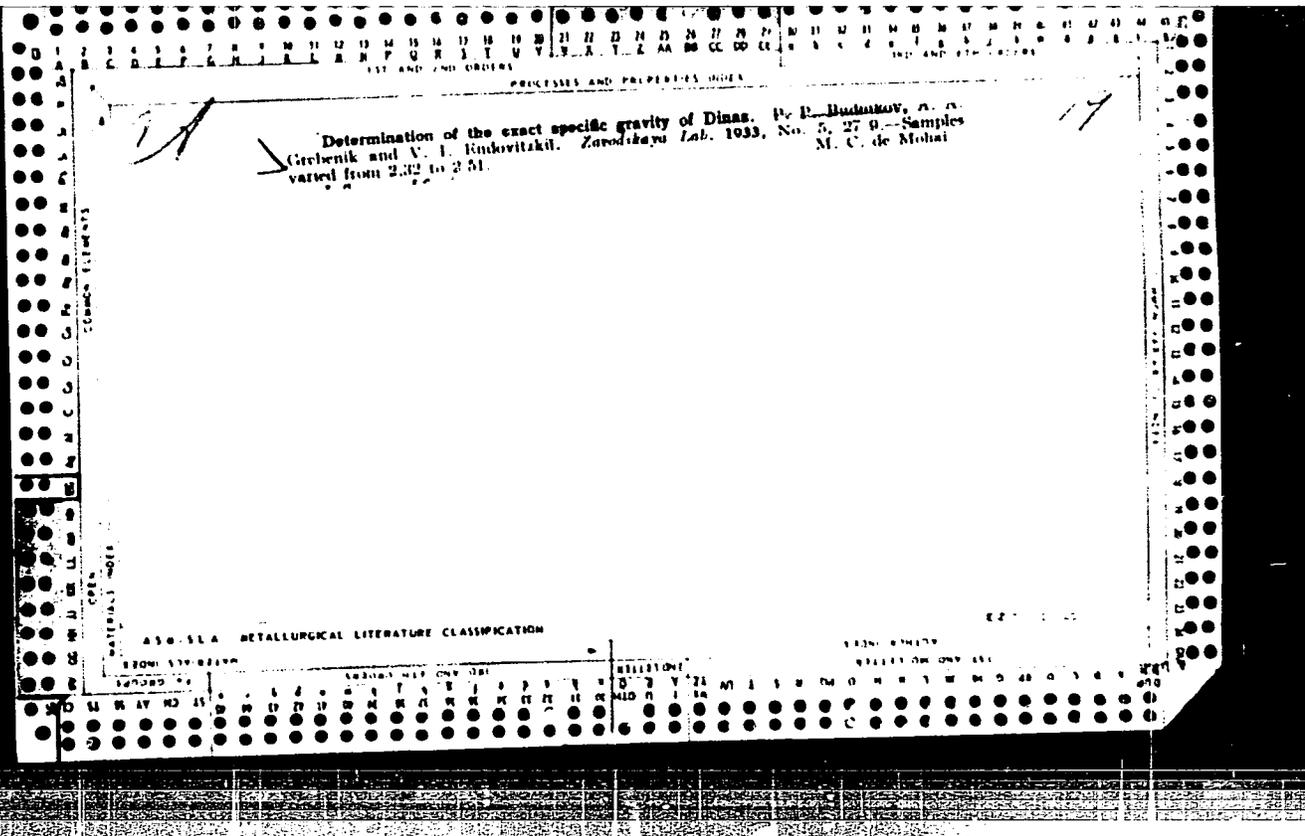
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RELATIONS

EDMUND CONVERSION

RELATIONS





PROCESSES AND PROPERTIES INDEX

-6

**\*Influence of Fireclay Dust on the Chemical and Thermal Properties of Firebricks.** P. P. Budnikov and E. L. Mandelgrin (*Zhurnal Prikladnoi Khimii* (Journal of Applied Chemistry), 1933, [B], 6, (1), 1-11).—[In Russian, with German summary.] The influence of grain-size of the fireclay on the properties of firebricks was investigated. Large grain-size increases the porosity and thus lowers the mechanical strength and increases its thermal resistance. With a large proportion of fine material (less than 0.2 mm.) deterioration in the resistance to heat changes, slagging and deformation occur. Tests with fireclay made from Tchaosvlar clay containing silica 53.96, alumina 32.45, iron oxide 0.85, titania 1.01, lime 0.31%, magnesia traces, alkalis 2.36, loss on ignition 8.86%, showed that increase of dust (less than 0.2 mm.) content raises the water requirements, which thus become directly proportional to the dust content. Contraction in volume on burning increases up to 30% dust, but falls thereafter. The density increases, whilst specific porosity and water absorption power decrease with increase of dust content. Mechanical strength increases with dust content, refractory properties and deformation under load remain unaltered, whilst resistance to thermal changes falls progressively. No relation could be established between dust content and resistance to slagging. 30% appeared to be the optimum figure for the fireclay in question. Linear expansion of the bricks is inversely dependent on this volume contraction.—M. Z.

A19-31A METALLURGICAL LITERATURE CLASSIFICATION

1930-1939

117 AND 118 REPEAT      119 AND 120 REPEAT

PROCESSING AND PROPERTY INDEX

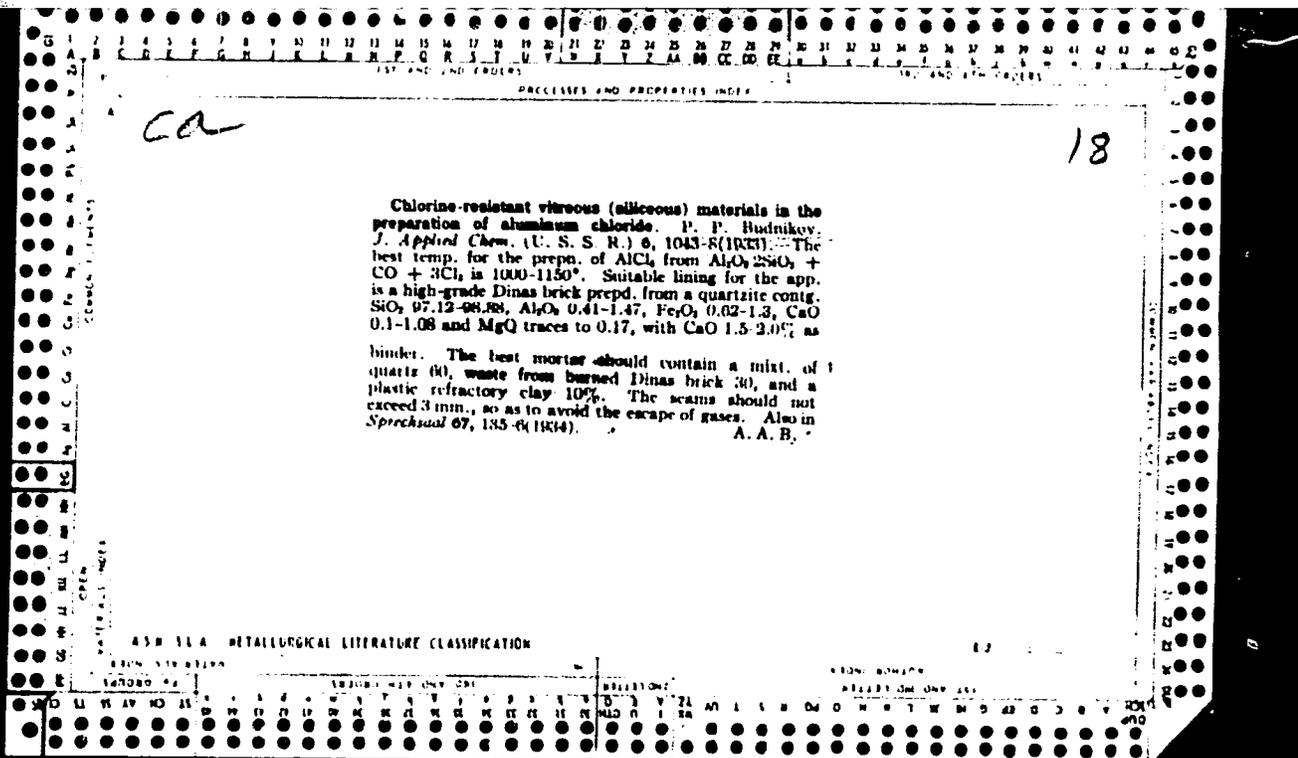
BC

B-I-10

Metallurgical class. as a basis for manufacture of chloride-free concrete. P. P. Rumyantsev and I. Gulyanova (J. Appl. Chem. Russ., 1955, 8, 1048-1049).—Basic slag (I) used in laboratory concrete (II) with natural or artificial aggregate (III), gypsum, or dolomite (IV). The crushing strength of concrete of (I), (III), and (IV) is > that of (II) containing also 15 or 30% of Portland cement chloride. R. T.

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

SEARCHED	SERIALIZED	INDEXED	FILED
M A Y 10 1955			



19

CA

PROCESSES AND PROPERTIES INDEX

Effect of MgO on physicochemical properties of Dinas brick. P. E. Radzikhov and N. S. Kasiyan. *Dokl. Akad. Nauk SSSR* 1933, No. 7, 14-17.—Exptl. bricks, contg. 0, 0.2, 0.3, 0.5, 1 and 2% MgO, were prepd. from mixts. of 2 kinds of quartzites. Micro- and macroanalysis and physicochem. tests showed that in every case the bricks were of good quality. S. L. Madorsky

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

GROUPS: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Microfilm frame containing a document page. The page is titled "Budinikov, P. P. INVESTIGATIONS OF QUARTZITES OF THE POLTAVSKII BEDS OF THE OCHERTINO REGION. *Mineral. Syr.*, 8 (5) 11-20 (1961). Data on the quartzite deposits and experiments in using them are given. The quartzites should be fired from 1280 to 1480° for 35 hr. to obtain good refractories." The page is surrounded by a perforated border with labels: "1ST AND 2ND LETTER", "3RD AND 4TH LETTER", "MATERIALS INDEX", "COMMON VARIABLES WORDS", and "COMMON ELEMENTS".

18

19

Investigation of quartzites of Voltava beds in the Ocheretino region, U.S.S.R.  
Budulovskiy Mineral. Spr. No. 6, 20 (1963). Lab. and semi-com. tests showed  
that material is suited for production of Dinas bricks for lining Martin furnaces and coke  
ovens.

METALLURGICAL LITERATURE CLASSIFICATION





PROCESSING AND PROPERTY INDEX

1ST AND 2ND ORDERS

19

Employing waste products from the production of aluminum chloride from kaolin in the ceramic industry. P. J. Budnikuy and M. Ya. Solomin. *Keram. i Strel. V.*, No. 9, 9(1933).—The waste products composed of 88.00% SiO<sub>2</sub> in a finely dispersed state, 12-14% Al<sub>2</sub>O<sub>3</sub> and traces of CaO were used in making faience. The mix was composed of kaolin 33.1, clay 30.2, waste products 31.7 and cullet 5%. The ware was fired to 1230°. Porosity of the body was 14-16%. The ware was then glazed and fired to 1220°. The glaze frit was: SiO<sub>2</sub> 13.2, feldspar 31.6, chalk 14.4, PbO 18.4, borax 19.9, kaolin 1.5; the glaze consisted of: frit 83.00, SiO<sub>2</sub> 10.00 and kaolin 6.80.  
 M. V. Kozlovsky

METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS



1ST AND 2ND LETTER													2ND LETTER													3RD AND 4TH DIGITS													MATERIALS INDEX												
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1ST AND 2ND LETTER													2ND LETTER													3RD AND 4TH DIGITS													MATERIALS INDEX												
AUTHOR INDEX													SUBJECT INDEX													CLASSIFICATION													GROUPS												

**Pyralis, P. P. SILICA REFRACTORIES GIVE DOUBLE SERVICE.** *Ceram.* 1p, 22-51 (1963) (1963) -The experimental production of "black Dinas," a form of silica refractory in which the quartz has largely been converted to tridymite, is described in detail. Conversion to tridymite is effected by the addition of iron-bearing mineralizers and a reducing material such as coke dust or charcoal. Open hearth furnace slag, Thomas and weld slags, and blast furnace dust, obtained from the smelting of cast iron are used as mineralizers. The quantity of iron-containing mineralizer should not exceed 2 to 3% of the weight of dry quartzite. A greater quantity of mineralizer does not promote additional conversion into tridymite under the same firing conditions, but does lower refractoriness, porosity, and softening point under load at high temperatures. Grains of metallic iron are removed from the ground mineralizer by means of a magnet, as such particles act as fusing centers which result in fused brick. The mineralizer is added to the dry quartzite powder in a finely ground state. The customary lime solution is not added until the mineralizer has been thoroughly dry-mixed with the quartzite. To secure a reducing atmosphere within the brick and to give it the normal porosity, about 1.5% of ground coke or charcoal is added. The reducing atmosphere is necessary for the formation of the ferrous-oxide glass in which the quartz dissolves relatively easily and in which the crystallized tridymite remains undissolved. The normal porosity imparts the necessary resistance to spalling. To increase the green strength, 0.125 of 1% of organic binder is added. One-half of 1% of lime is also added. The granulometric composition of the mixture must be such that the grains vary from a fine flour up to grains of 5 mm. in diameter. It is sufficient if not more than 50% of the grains will pass through a 4.0 mm. mesh sieve. The firing of black Dinas brick is carried out under conditions comparable to those employed with ordinary silica brick. It is especially important to employ a reducing atmosphere during the main firing, to fire at a high temperature (1400 to 1450°C.), and to hold the ware at a high temperature. The duration of soaking depends upon the quality of the raw material used. The cooling must be carried out carefully, especially at temperatures below 800°C. An open-hearth furnace unit built from first class tridymite brick made thus is claimed to withstand approximately 600 meltings.



TEST AND ENG. ORDERS

PROCESSES AND PROPERTIES IN LEAD

TEST AND ENG. ORDERS

ca

20

Gypsum and anhydrite as raw materials for the chemical and building materials industries. P. P. Budnikov. *Trans. Sci. Inst. Fertilizers* (U. S. S. R.) No. 101, 99-104 (1963).--B. analyzes the reactions involved in the production of  $H_2SO_4$  from gypsum by thermal methods and the utilization of the residue in the manuf. of portland cement. He also discusses the production of S from the slag of reverberatory furnaces, of  $(NH_4)_2SO_4$ , and portland cement from gypsum and anhydrite. J. S. Jaffe

ASSOCIATED METALLURGICAL LITERATURE CLASSIFICATION

TEST AND ENG. ORDERS

TEST AND ENG. ORDERS

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CA

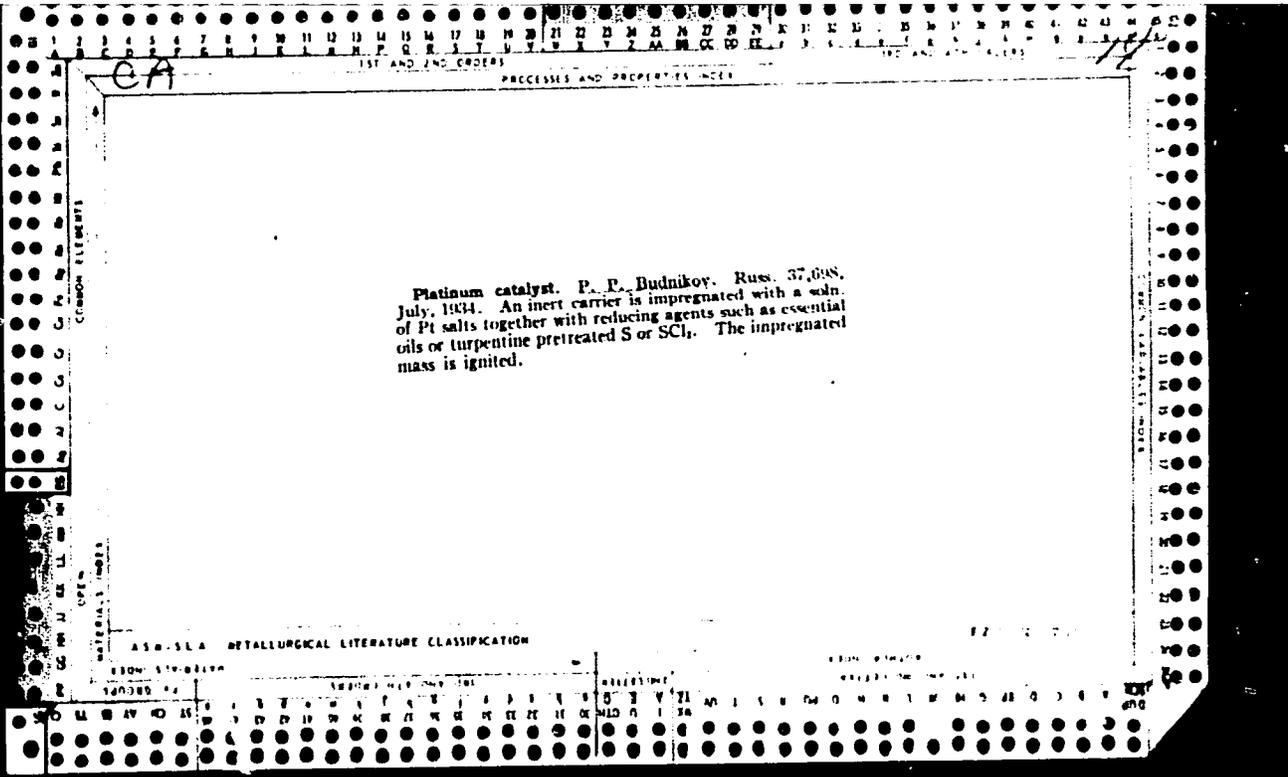
PRELIMINARY INDEX

Cement. P. P. Rudnik. Russ. 36,262, April 30, 1934. Addn. to Russ. 31,245 (C. A. 28, 4281P). Anhydrite is used as the main ingredient, while the slag is used only as an admixt. In addn. to slag and dolomite dust is used also the by-product from the prepn. of alumina by the alk. method. Natural or artificial anhydrite may be used.

Apparatus for testing cement pastes or conglomerates during hardening. Cesare Zamboni. Brit. 476,253, Dec. 6, 1937. A pendulum is allowed to swing against the specimens and the height of the rebound of the pendulum measured.

ASB-11-A METALLURGICAL LITERATURE CLASSIFICATION

GROUP	CLASS	SUBCLASS	SECTION	ITEM
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Microfilm frame containing a patent document. The document is titled "Budnikov, P. P. FIRE-CLAY BRICK, ETC. U.S.S.R. Pat. 39,658, Oct. 31, 1934." and describes a process for preparing fire-clay bricks by moistening fire clay with an electrolyte solution and adding a coagulant.

Microfilm frame containing a patent document. The document is titled "Budnikov, P. P. FIRE-CLAY BRICK, ETC. U.S.S.R. Pat. 39,658, Oct. 31, 1934." and describes a process for preparing fire-clay bricks by moistening fire clay with an electrolyte solution and adding a coagulant.

**Budnikov, P. P. FIRE-CLAY BRICK, ETC. U.S.S.R. Pat. 39,658, Oct. 31, 1934.**—In the preparation of brick, etc., fire clay is moistened with a solution of an electrolyte and finely ground clay mixed with a coagulant, such as  $AlCl_3$ ,  $CaCl_2$ ,  $FeCl_3$ , or  $Fe_2(SO_4)_3$ , is added.

117 AND 2ND COVER PROCESSED AND PROPERTIES INDEX 100 AND 6TH COVER

BC

2-10

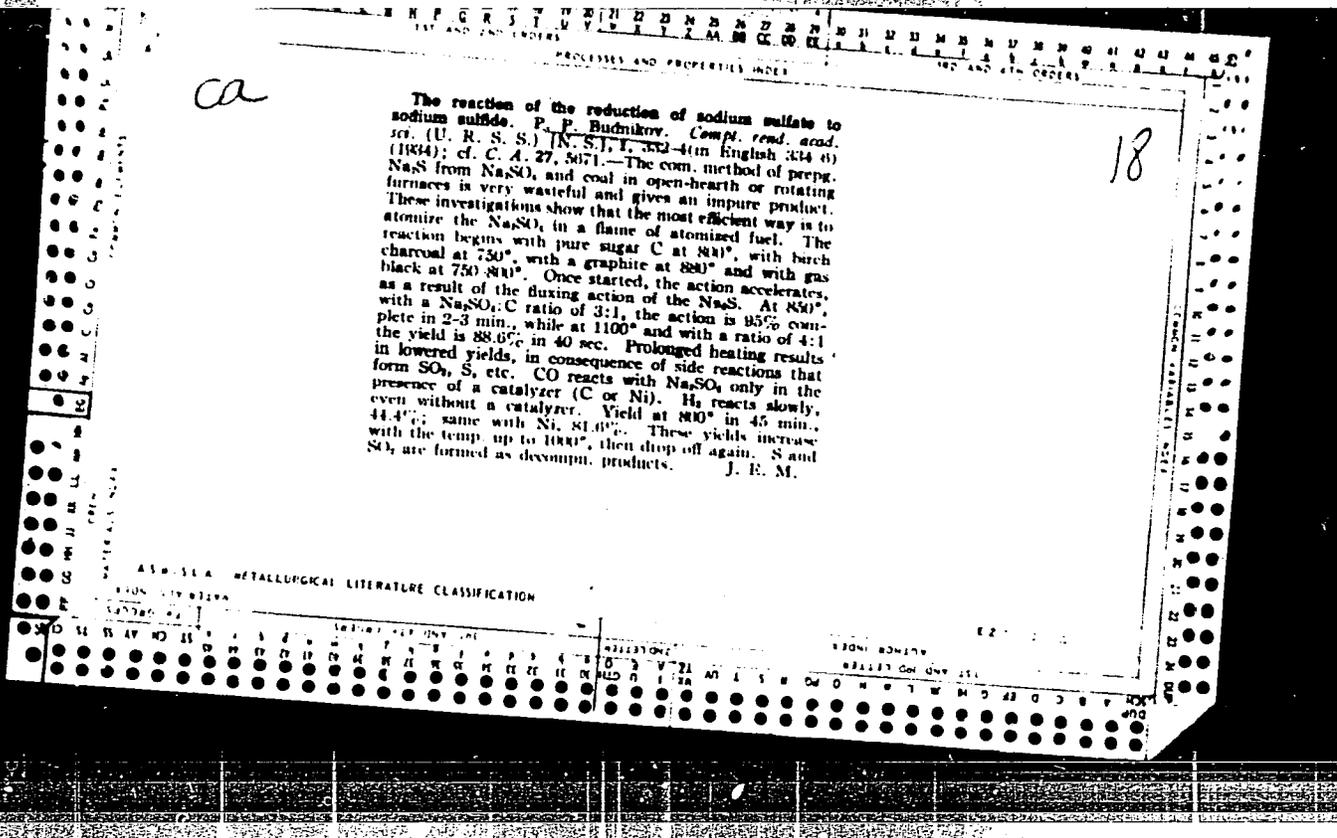
Activation of blast-furnace slag and preparation of clinkerless cement. P. F. BOYER (Compt. Rend. Acad. Sci. U.R.S.S., 1934, 1, 255-263).—The quality of the cement depends on the nature of the activator, the composition of the slag, the manner and degree of its granulation, and the conditions of cooling of the molten slag. Slags should contain < 46% CaO, < 9% Al<sub>2</sub>O<sub>3</sub>, < 3% MnO, and > 2% FeO. CaS improves the mechanical properties of the cement. H. J. E.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

FROM BOWLING

FROM BOWLING

FROM BOWLING



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1ST AND 2ND ORDERS PROCESSED AND PROPERTIES INDEX

19

*ch*

The action of carbon monoxide on fire clay. P. D. Hudjakov and I. Nirenshtein. *Stal* 6, No. 7, 48-52 (1934). --At 400-500°, FeO present in fire clay brick (1-5%) acts as a catalyst for the reaction  $2CO \rightarrow CO_2 + C$ . The C thus pptd. in the pores of the bricks disintegrates them. At higher temp. such action does not take place. The addn. of a small amt. of  $CuSO_4$  to the fire clay hinders disintegration. H. W. Rathmann

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

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BUDNIKOV, P. P.

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**Budnikov, P. P., and Nirenshtein, D. A. RELATION OF REFRACTORY GROG MATERIALS TO INFLUENCE OF CARBON MONOXIDE.** *Slat.* 7, 48-52 (1931). --The question of the influence of carbon monoxide on refractory linings of furnaces is of real practical importance. Its destructive influence is caused by the reaction,  $2CO + C \rightarrow CO_2 + C$ , which takes place under the catalytic influence of iron oxide contained in the refractory brick and leads to deposition of carbon which leads to destruction of the lining. Investigations by different authors are described. Investigations by the authors to find the conditions under which grog brick would be the most resistant to the influence of CO are described. The following conclusions were made: iron oxides and sulfides contained in the clay or taken into the mass during its working up in machines for the most part change to iron oxide. This acts as a catalyzer to the above-mentioned reaction. The optimum temperature for the reaction is 450 to 700°; at higher temperatures, it goes in the reverse direction and no depositions of carbon are observed. The destruction of grog refractories is higher around iron spots. An important factor for the resistivity is the volume porosity of brick on which their permeability to gases depends. A very small addition of copper sulfate to the charge improves the resistivity of grog materials to CO, and this circumstance should be investi-

gated more extensively. The following practical suggestions are made: the iron content (computed as  $Fe_2O_3$ ) must not surpass 1 to 1.3% which can be attained by careful mechanical cleaning of clay and electromagnetic separation of the charge; this quantity of iron must be regularly distributed in the mass; an elevated density of the brick is required, the volume porosity not surpassing 18%; the firing of grog refractories in the temperature interval of 1300 to 1500° is desirable in a reducing atmosphere, and the ferric compounds formed at this temperature make the brick dense and catalyze the formation of mudite. Under the above condition a protective "crust" forms on the surface which improves the chemical resistivity of the brick.

**BUDNIKOV, P. P.**

**REFRACTORIES AND THEIR CORROSION.**  
 (Sov. Pat. 1,437,744 (1934); *Ceram. Age*, 25 (4) 121-22 (1935)). The chief destructive factors are chemical and thermal influences (about 80%), mechanical wear (15%), and other factors (5%). A classification of refractories is given, the limits of using temperatures of refractories are indicated, and the causes of thermal and chemical wear of all kinds of refractories (influence of slags, ash, oxides, gases, salts, etc.) are described. Ways of improving the quality of different refractories are suggested. The causes of wear of refractories are analyzed.

**ASSEMBLY RETAILING LITERATURE CLASSIFICATION**

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